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June, 1954

SOAP and Chemical Specialties

formerly SOAP AND SANITARY CHEMICALS

On this issue...

o soapers really know eir production costs?

eaning agents improved corrosion inhibitors

ti-freeze market big--t headaches plentiful

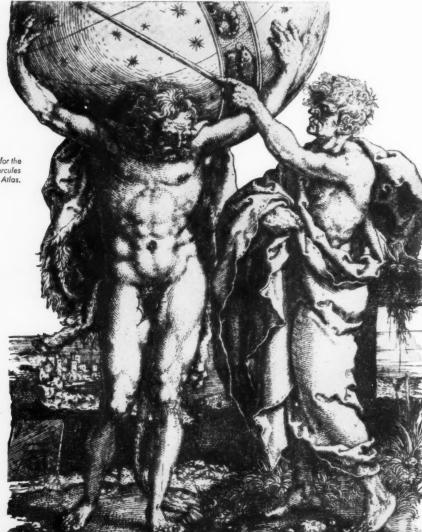
T "toxicity" confuses, clares medical expert

Cover photo . . . John A. Ewald, head of Avon Products, Inc., New York, who was chosen president of the Toilet Goods Assn. at the annual meeting last month.



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It is axiomatic, in our day, that many a harried manufacturer seems to carry "the weight of the world" upon his shoulders. Particularly during a period of work and development on a new or improved product containing an odor problem, able technical assistance is required. The D&O Industrial Odorant Laboratories will provide this aid...plus a complete product development service designed to give each item its own individualized fragrance appeal. Take a rest from the "weight of the world". Shift your industrial odorant problem to the able shoulders of the D&O Product Development Labs.



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JUNE, 1954



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the new floor treatment for

Increased Anti-Slip

Greater Durability

Lower Floor Maintenance Cost



CAND-DOX #cs

Originally offered as CANDY'S SUPREME Special WR-AS in July 1950

CAND-DOX #BB

Originally offered as BRIGHT BEAUTY Special WR-AS in June 1951 CAND-DOX #CS and BB are made in any total percentage of solids 8% to 18% and in 24% concentrate.

CAND-DOX #CS is slighty more durable and higher priced than CAND-DOX #BB in like percentage of total solids.

floor treatments represent the finest products available where a higher than minimum recognized standard of anti-slip quality is desired. The resultant films from the use of these products are HARD, non-tacky, and will withstand wear, dirt and discoloring traffic marks.

DURABILITY and ANTI-SLIP... (AND-DOX products include a compensating factor—LUDOX*—in itself harder than wax. The addition of LUDOX* to the proper wax bases, perfected purposely to accompodate this additive, causes a greater coefficient of friction and therefore greater safety underfoot.

WATER RESISTANCE and REMOVABILITY in proper balance are very important in every maintenance program. In the development of the wax emulsion bases that go into (AND-DOX floor treatments, the important all-around high qualities of our (Standard) CANDY'S SUPREME, BRIGHT BEAUTY and other well known and accepted waxes were taken into consideration and accomplished in the final (AND-DOX products containing the new bases plus additive.

BEAUTY of floors maintained with CAND-DOX floor treatments, which are both hard and very anti-slip, is no less than remarkable and equal to the lustre for which our products have long been famed. The same buffing can be applied, if desired, and the same gloss will result.

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Why not write us today for free samples and prices so that you can make your own FIELD TESTS?

The most complete line of water emulsion waxes of the highest quality available anywhere

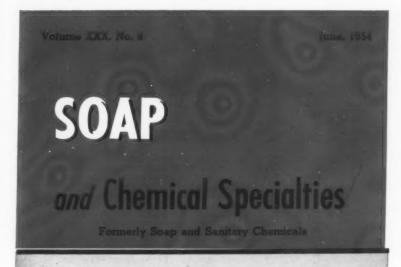
CANDY'S SUPREME (Standard)
CANDY'S SUPPREME Special WR
BRIGHT BEAUTY (Standard)
#CS CAND-DOX
#BB CAND-DOX

Wax Specialists for over 60 years

Candy & Company, Inc.

2515 W. 35th ST., CHICAGO

All the above CANDY products are listed by Underwriters'



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Published monthly by MAC NAIR-DORLAND COMPANY

IRA P. MAC NAIR President

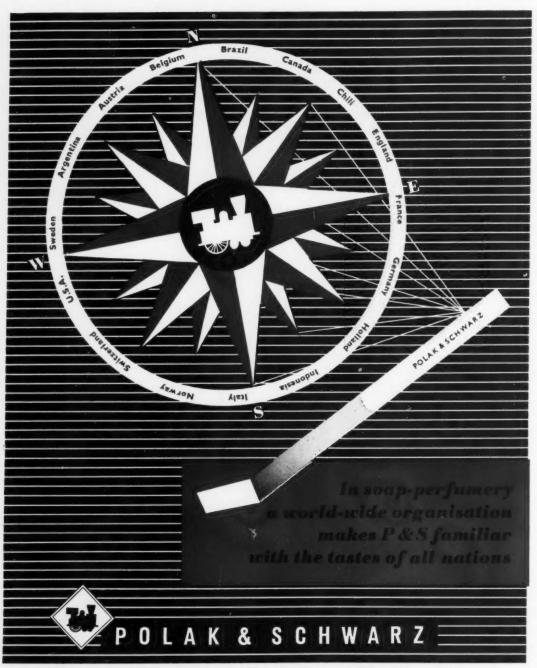
GRANT A. DORLAND Vice President and Treasurer

Publication Office 254 W. 31st St., New York 1, N. Y. Telephone: BRyant 9-4456

> Chicago Office 333 N. Michigan Ave.



Subscription rates: U. S., \$4.00 per year; Canadian, \$5.00; Foreign, \$6.00. Copy closing dates — 22nd of month preceding month of issue for reading matter and 10th of month preceding month of issue for display advertising. Reentered as second-class matter at the Post Office, New York, N. Y., under the Act of March 3, 1879.



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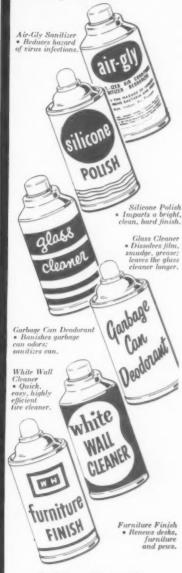
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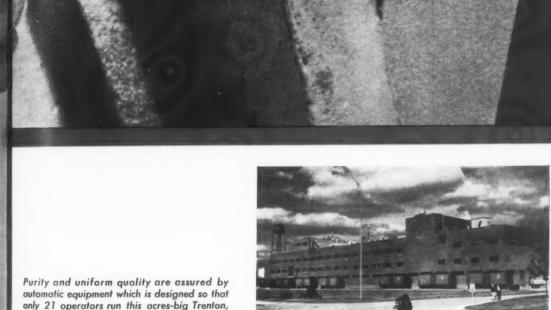
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Valued also as a foaming agent for unusual volume and persistency, MAPROFIX POW-DER LK is widely used as a carpet cleaning, general household and industrial detergent, as a foaming agent in dentifrices, shampoos and other cosmetic products. An excellent dispersing agent, it is used also in insecticides and fungicides, as well as cosmetics.

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sodium lauryl sulphate



LOW

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Wherever cleaning problems arise, one of the first trade names to be mentioned is "Tornado". Why? Because the advertising, sales promotion, literature, trade shows and missionary work behind this famous line has put it on "everyone's lips". Tornado is the "complete" product line with ready-made consumer acceptance. No progressive distributor can afford to be without the "Tornado line".

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When she makes it a rule to look cool



Norda helps

Women are smart in the summer. They are ladies of quality. They find relief from summer sultriness in quality toiletries.

Fine cologne is a summer stand-by. It picks up and perks up her spirits. Even on the most drooping days, cologne keeps her "fresh at four."

A woman knows, too, that summer really tests a perfume. She likes the fine freshness of floral scents. She knows that a summer evening needs a perfume of subtle lightness.

Norda creates fine perfume compounds that are wonderfully right for summer.

They are the basis for outstanding successes among the quality perfumes, colognes, and other toiletries most popular every summer.

Norda was the first ever to tell you, repeatedly, that good scents mean good sales. Send for samples that will convince you of Norda quality.





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TEOX 120
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TEOX 120, blended with phosphates and other materials (REQUEST DATA SHEET) produces controlled sudsing detergents of high efficiency . . . in hard or soft water.

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TEOX120 is an excellent scour ing and wetting agent for textile fabrics and yarns. suggested uses for

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TEOX 120, in small concentrations, minimizes dusts in detergent mixes and improves cleaning properties. BLOCKSON'S NONIONIC SURFACTANT

A neutral liquid 100% active water and-oil soluble emulsifier, penetrant and wetting agent that promotes deter-

AGENT AND DISPERSANT

TEOX 120, as an emulsifier in insecticidal preparations, also enhances adhesion and wetting properties.

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- Send data sheet on TEOX 120
- Include testing sample
- Send bulletin on detergent compounds incorporating TEOX 120.

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Low Density D-40_{SF}



D-40 SF of Oronite's D-40 SF alkyl aryl sulfonate in flake form.



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Your best buy for "Car-Wash" repackaging

When you buy by weight and sell by volume, D-40 SF will increase your profit on repackaged car-washing products. Because of D-40 SF's low density it doesn't require as much product to fill your standard packages.

You will find a further advantage in being able to repackage D-40 SF "as is" or with a minimum amount of compounding.

D-40 SF is quickly soluble in hard or soft water, either hot or cold. It is free flowing, provides maximum amount of foam and maintains foam stability in presence of grease. Being neutral, D-40 SF will not harm painted surfaces.

Packaged in easy-to-handle 70 lb. bags, D-40 SF is made by Oronite, the world's largest producer of synthetic detergent raw materials. The Oronite name is your assurance of a stable, economical source of supply.

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"The world's largest producer of synthetic detergent raw materials"

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TIES.



After Closing ...

NSSA to Meet in Atlantic City

N EXT year's convention and trade show of the National Sanitary Supply Association will be held in Atlantic City, N.J., instead of the Conrad Hilton Hotel, Chicago, it was announced earlier this month by Leo J. Kelly, N.S.S.A. executive vice-president. The 1955 convention and trade show will be held at Atlantic City Auditorium and Convention Hall on the boardwalk. Headquarters hotel will be the Traymore. Tentative dates for the annual meeting and show are Sunday, Monday, Tuesday and Wednesday, March 20-23.

This marks the first time the N.S.S.A. has met in Atlantic City, and excepting for an earlier meeting in the 30's is the first time the greatly enlarged, modern association has ever held its trade show and annual convention in the east.

Originally the meeting had been scheduled to be held in the Conrad Hilton Hotel, where it was understood the N.S.S.A. was committed to meet for the next several years. The N.S.S.A. has met annually at the Conrad-Hilton since 1950, with the exception of 1951, when, because of a conflict in dates, the association met in Cleveland. It is understood the Conrad-Hilton sold the main ballroom on the Tuesday evening of the meeting, when the N.S.S.A. customarily holds its banquet there.

The decision to change the 1955 meeting place was taken at a meeting of the board of directors of the National Sanitary Supply Assn. at the Hotel Morrison, Chicago, May 7-8. The board also decided at its May meeting to permit non-members to visit the exhibit hall during the annual convention if they pay \$20 and provided they are qualified distributors or wholesalers.

A meeting of the board of directors of N.S.S.A. will be held in Columbus, O., Aug. 17. An eastern meeting of the board is scheduled for Oct. 28-29 in either New York City or Philadelphia. It is expected that the usual two-day eastern regional meeting will be held at the time.

Other regional N.S.S.A. meetings to be held include those of: the southwestern group at the Adolphus Hotel, Dallas, Tex., August 7; the central regional group in September, time and place to be announced; a western regional group meets at the Hotel Statler, Los Angeles, Oct. 21 and 22, and a southern regional meeting will be held in Miami, Fla., Nov. 5 and 6.

Lower Price for "Tritons"

Price reductions for the "Triton" line of surface active agents were announced recently by Rohm & Haas Co., Philadelphia. The current price schedule for "Triton X-100" per pound reads as follows: tank truck and tank car lots, 2834 cents (from 31½ cents); truck and carload lots, in drums, 30½ cents (from 33½ cents); l.c.l., in drums, 32 cents (from 36 cents). The prices of "Tritons X-102, 114," and "138" were similarly reduced.

P.R. Registration Deadline

Application forms for registration under the Puerto Rico Economic Poison Act (No. 49, enacted June 10, 1953) are now available and must be filed before Sept. 15, 1954, according to rules, regulations and standards promulgated late last month by the Department of Agriculture and Commerce of the Commonwealth of Puerto Rico. Forms are available from the Bureau of Production and Marketing, Division of Regulations, P.O. Box

10163-Santurce, Puerto Rico, and may be filed any time between now and Sept. 15. Any requests for applications should be sent air mail. Both applications for registration and "Product-Data-Sheets", which must be filled in and submitted in duplicate with registration applications, are now available. No economic poison or device can be transported, offered for sale or sold in Puerto Rico after Sept. 15, 1954 unless the product has been registered with the Bureau of Production and Marketing of the Puerto Rico Department of Agriculture and Commerce.

Barrett to Phila. Quartz

Philadelphia Quartz Co., Philadelphia, Pa., recently announced that it has named Franklin J. Barrett of Salem, Mass., to the laundry sales service division. He was formerly laundry manager for Booth Memorial Hospital, Brookline, Mass., and has served as president of the Institutional Laundry Managers Association of New England since 1952. Mr. Barrett is assigned to technical laundry service in the New England territory.

Dow Soda Ash Plant

Contracts for the construction of the new soda ash plant at Freeport, Tex., will be let later this summer by Dow Chemical Co., Midland, Mich., and construction will get under way this fall it was learned early this month. Completion of the plant is set for the late summer of 1955. The step marks Dow's entry into the soda ash field, although the firm has been a top producer and seller of caustic soda for some time.

The cost of the new soda ash plant will be about \$3,000,000. Plans call for the construction of three side-by-side concrete silos, each 55 feet in diameter and 90 feet high to hold the finished product waiting shipment. The plant will have a production capacity of around 300 tons per day.

Operation of the soda ash plant will be under the general su-

pervision of A. F. Shorkey, of the Dow Texas division's caustic section, as part of the inorganic production group headed by assistant general manager, H. G. Roebke.

Process studies for the soda ash plant were done by the Texas division's engineering department with W. A. Mod as project leader. Design and engineering of the plant is being handled by the division's engineering department, with Lynn Howell as project engineer.

New Eng. NSSA Outing

A special outing will be held by New England regional members of the National Sanitary Supply Association Wednesday, June 30, at the New Ocean House, Swamscott, Mass. The proceedings are to get under way at 1:30 p.m., with golf, tennis, horseshoe pitching and swimming scheduled. A special lobster dinner will be served at 7:00 p.m. Guests are invited and the cost is \$4.85. Reservations may be made by sending checks to James Reider of George T. Johnson Co., 530 Boston Ave., Medford, 55, Mass. Members of the entertainment committee for the affair include Dick Williams of George B. Robbins Disinfectant Co., John Riorden, Hospital Specialties Co., Art Beal of James Huggins & Son, all of Boston, Sam Kaplan of Merit Paper Co., Cambridge, and Russell Smyth of S. C. Johnson & Son Inc., Boston.

Oppenheimer Temple Head

Leonard J. Oppenheimer, vice-president and secretary of West Disinfecting Co., Long Island City, N. Y., was chosen president of Temple Sinai, Lawrence, L. I., N. Y., at the annual meeting of the congregation June 8. Mr. Oppenheimer, who has served as chairman of the development committee for several years, becomes a member of the board of trustees. He served on the board about five years ago, when he first became active in the affairs of the temple. Mr. Oppenheimer is a member of



First chemical manufacturer to adopt the five pound polyethylene package for marketing its line is Turco Products, Inc., Los Angeles. Turco is now packaging its two steam cleaners and a concrete floor cleaning compound in heat sealed, waterproof, five pound polyethylene lined bags that are claimed will cut compound consumption by 25 percent. The new five pound package is a measurable unit of charge size, which eliminates spillage and overcharging of machines The waterproof package eliminates wasteful caking of material. Ten five-pound packages are packed to a case. Packages and cases are color coded for quick and easy identification.

the board of governors of the Chemical Specialties Manufacturers Assn., and was president of the organization for two years. He also was a director of the Association of American Soap & Glycerine Producers, Inc.

Seligs to Europe

Albert Selig of the Selig Co., Atlanta, Ga., and Mrs. Selig are sailing July 1 on the *Queen Elizabeth* to Europe for a six weeks' trip. In addition to visiting the British Isles, the Seligs will spend part of their time in the Scandinavian countries, Switzerland, France and Germany.

BIMS Golf Schedule

BIMS of New York will hold its first golf tournament of the season at the Knoll Club, Boonton Manor, N.J., June 24. Other golf dates for the season are: Winged Foot, Mamaroneck, N. Y., July 20; Wheatley Hills, East Williston, L. I., August 17; and Wykagyl, New Rochelle, N. Y., September 21.

New Moran Brush Price

The availability of tank glass washing brushes and dairy supply brushes in white du Pont Tynex Nylon for the same price as the black Nylon, was announced recently by Moran Brush Manufacturing Co., Hamden, Conn. The brushes are mounted on rustproof bases and come in single, twin and triple models. Worn brushes are easily replaced. Low prices have stimulated jobber sales in an otherwise dull period.

"Pluronics" Priced Lower

Reductions in the price of all "Pluronics," non-ionic surface active agents, were announced last month by Wyandotte Chemicals Corp., Wyandotte, Mich. The cut amounts to approximately \$.05 per pound in carload quantities and to \$.035 per pound in l.c.l. quantities.

New Givaudan Pine Odor

A replacement product for natural balsam fir Oregon has been developed by Givaudan-Delawanna, Inc., New York, it was announced recently R. E. Horsey, vice president in charge of sales. "Fir Balsam PA" is recommended for use as a fixative in pine soap odors, air deodorants, bath preparations, and detergents. Samples and detailed information may be obtained by writing to the manufacturer.

Hooker Moves Miller, Long

Hooker Electrochemical Co., Niagara Falls, N.Y., advanced Harris C. Miller from the position of sales representative in the New York district to that of assistant district sales manager of the New York district sales office. The firm also transferred Frank W. Long from the research and development department to the sales development group of the sales department. Both changes were announced recently by Robert E. Wilkin, vice president and general sales manager.

Soap, Syndet Sales Rise

Sales of synthetic detergents rose in the first quarter of 1954 and now represent 58 percent of the total soap and detergent market, according to figures recently released by the Association of American Soap & Glycerine Producers, Inc., New York. Sales of synthetic detergents reported by AASGP member companies during the first three months of 1954 totalled 567,009,000 pounds, valued at \$127,957,000, compared with 482,496,000 pounds, worth \$109,973,000 during the first guarter of 1953 and 440,737,000 pounds, valued at \$100,351,000 in the fourth quarter of last year.

This represents a 29 percent increase over the tonnage reported for the previous quarter and 17 percent over the same period last year. Liquid detergents accounted for 28,960,000 pounds in the first '54

quarter, compared with 19,592,000 pounds during the comparable period in 1953. Plant sales of solid detergents were 538,049,000 pounds, compared with 462,904,000 pounds, in the first quarters of 1954 and '53 respectively.

Total soap sales in the first quarter of this year amounted to 405 million pounds, valued at \$85,-418,000, compared with \$85,263,000 during the same period of last year, an increase of two percent, and with \$71.714.000 in the fourth quarter of 1953. Liquid soap sales fell to 1,199,000 gallons during the first quarter of 1954, as against 1,223,000 gallons in the first three months of 1953, representing \$1,580,000 and \$1,713,000, respectively. Sales of other than liquid soap for the first quarter of this year totalled 395,-936,000 pounds, worth \$83,838,000.

In the first quarter of 1953 sales of other than liquid soap were 416,-459,000 pounds, valued at \$83,550,-000.

Elect Bernard J. Kelly

Bernard J. Kelly, assistant secretary of the National Sanitary Supply Association, Chicago, and son of Leo J. Kelly, executive vice-president of N.S.S.A., was recently elected president of the Chicago chapter of the National Association of Sanitarians.

P&G, Canada, Names Smith

P. B. Smith has been appointed advertising manager for Procter & Gamble Co, of Canada, Ltd., Toronto, Ont., it was announced recently. The appointment becomes effective July 1. Mr. Smith will also be a member of the firm's sevenman management committee.

Mathieson, Olin to Merge

Merger of Mathieson Chemical Corp., Baltimore, and Olin Industries Inc., East Alton, Ill., into the Olin Mathieson Chemical Corp. was approved last month by the directors of both companies and will be submitted to stock holders at special meetings on June 29. The announcement was made jointly by John M. Olin, president of Olin, and Thomas S. Nichols, president and chairman of Mathieson. Mr. Olin will become chairman of the board of Olin Mathieson and Mr. Nichols will be president. John W. Hanes will serve as chairman of the finance committee. The merger will be on a share for share basis. However, a five percent stock dividend on the Mathieson common stock will be paid prior to the effective date.

Both companies were founded in 1892 and each has approximately 18,000 employees.

Firmenich Names Lelong

Paul H, Lelong has joined Firmenich Inc., New York, as perfumer, it was announced recently. Formerly chief perfumer for Richard Hudnut, New York, Mr. Lelong is a member and director of the American Society of Perfumers.

Total soap and detergent sales reported by AASGP members in first quarter of 1954

	Pounds	Dollars
Soaps other than liquid	395,936,000	83,838,00
Liquid soaps	1,199,000*	1,580,00
Total sales value		85,418,00
Bar toilet soaps, incl. mechanics	124,691,000	34,880,000
Yellow & other than white laundry bars	16,690,000	1,650,00
White laundry bars	53,885,000	8,886,00
Soap chips and flakes, pkgd.	20,349,000	5,968,00
Soap chips and flakes, bulk	29,553,000	2,973,00
Soap, granulated, powdered, sprayed, pkgd.	103,127,000	21,051,00
Soap, granulated, powdered, sprayed, bulk	25,380,000	2,660,00
Misc. or "other" soaps	500,000	86,00
Shaving soaps	1,084,000	617,00
Shaving cream	3,504,000	3,312,00
Paste and jelly soaps	5,556,000	647,00
Washing powders, pkgd.	2,182,000	203,00
Washing powders, bulk	5,827,000	432,00
Hand pastes	1,739,000	161,00
Hand powders	1,869,000	312,00
Liquid soaps, other than packaged shampoos	1,152,000	1,307,00
Shampoo	47,000	273,00
Detergents, solid	538,049,000	114,305,00
Detergents, liquid	28,960,000	13,652,00
Total	567,009,000	127,957,00
Detergent, solid, other than shampoos, pkgd.	516,875,000	108,987,00
Detergent, solid, other than shampoos, bulk	17,130,000	2,855,00
Detergent, liquid, other than shampoos, pkgd.	2,189,000*	8,565,00
Detergent, liquid, other than shampoos, bulk	1,129,000*	1,625,00
Detergent shampoos, liquid	2,416,000	3,462,00
Detergent shampoos, solid	4,044,000	2,463,00

*Expressed in gallons

Colgate Advances Two

Colgate-Palmolive Co., Jersey City, N. J., has named Gilbert Leigh, former head of the quality



Gilbert Leigh

control division, to the post of assistant director of the research and development department. John Major has been appointed group leader and acting head of the quality control division. Both changes were announced last month by Thomas

H. Vaughn, vice president in charge of research and development.

Mr. Leigh, a graduate of Columbia University, joined Col-



John Major

gate in 1949. He was previously associated with Metal & Thermit Corp., New York. Mr. Major was with Personal Products Corp., New Brunswick, N. J., before coming with Colgate in 1951. He is a graduate of the Univ. of Pennsylvania.

of the Solvents, Barium and Phos-

phates Division.

Wyandotte Reassigns Buck

Royce P. Buck recently has been named field representative in the eastern district office of Michigan Alkali Division, Wyandotte Chemicals Corp., Wyandotte, Mich. A graduate in chemistry and business administration from the University of Minnesota, Mr. Buck was associated with Mallinckrodt Chemical Works, Inc., Lion Oil Co., and Eli Lilly & Co., before joining Wyandotte.

Form Atlas-Goldschmidt Co.

A new German emulsifier company, Atlas-Goldschmidt, G.m. b.H., has been formed jointly by Atlas Powder Co., Wilmington, Del., and Th. Goldschmidt, A.-G., Essen, Germany, it was announced recently by Atlas president Ralph K. Gottshall. Beginning July 1, the new firm will market surface active agents and emulsifiers throughout the world.

Goldschmidt's plant in Essen will manufacture Atlas Powder's fatty acid esters of sorbitol, polyoxyethylene derivatives of these esters, and related products sold under Atlas trade names, in addition to its own line of glycerol stearates and other emulsifiers.

At the same time the firm other emulsifiers.

announced the appointment of William O. Holleman as assistant divisional sales manager of Westvaco's Phosphate Division. He joined the company as a salesman in the New England territory and has since been assistant division manager of the New York district.

Marquard in New Position

Carroll F. Marquard has been appointed manager of production engineering for the central metal division of Continental Can Co., New York, it was announced recently by William M. Cameron, vice president of the division. Mr. Marquard, with Continental since 1951, has successively served as manager of the firm's defense plant in Chicago and of its metal can plant in Milwaukee. In his present position, he makes his headquarters in Chicago.

New Use for "Lysol"

"Lysol" disinfectant is suggested by its supplier, Lehn & Fink Products Corp., New York, as an aid to summer foot comfort. The new promotion angle recommends a solution of a few drops of "Lysol" to a glass of water, applied with a wad of cotton to the inside surface of the shoe as a deodorizer, preventive against athlete's foot, and as a cooling agent.

Eisenschiml Speaks

Dr. Otto Eisenschiml, chairman of the board, Scientific Oil Compounding Co., Chicago, spoke on the art of selling chemical knowledge before the Chicago Chapter of the Society of Cosmetic Chemists. The group held a dinner meeting at Henrici's Restaurant in the Merchandise Mart, June 8.

DCAT Hears Howrey

Drug, Chemical and Allied Trades Section of the New York Board of Trade held its spring luncheon meeting on June 17 at the Hotel Commodore, New York. Edward F. Howrey, chairman of the Federal Trade Commission, spoke on "The Federal Trade Commission and Business." The address included a discussion of the reorganization of F.T.C. as well as of the commission's relationship with the Food and Drug Administration.

Westvaco Reassigns Two

Raymond C. Tower has been appointed New York district sales manager by Westvaco Chemical Division, Food Machinery & Chemical Corp., New York, it was announced recently. In his new position he is responsible for sales in New England, New York, and New Jersey. Mr. Tower joined Westvaco as a research chemist and later served as assistant divisional sales manager

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Stop the Eye... Start the Sale ...



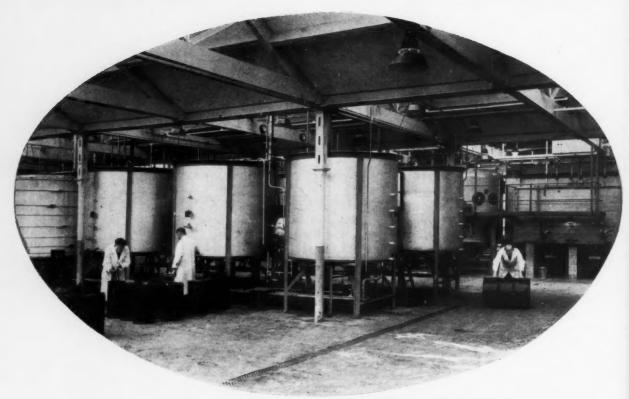
You've just made a sale. Her eye was caught by your product in its distinctive blue bottle and she's going to buy. That's not strange. Maryland Blue is a powerful salesman. It stops the eye in the store . . . invites use in window and counter displays . . . acts as a constant reminder in the home. It imparts to your product the integrity and quality that has been associated with blue through the centuries. See for yourself why leading firms utilize Maryland Blue's rich color as an advertising, merchandising, and selling tool.

Write for samples today. No obligation, of course.

Maryland Glass Corporation, Baltimore 30, Maryland.

Pack to attract in Maryland Blue

Also available in clear glass





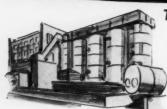
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are outstanding sequestering or chelating agents capable of controlling, by deionization, undesirable di- or tri-valent metal ions in aqueous solution



NULLAPON BF-12 **NULLAPON BF-13 NULLAPON BF-78 NULLAPON BF-ACID** 100% SOLIDS 100 99% ACID INERT 90 90 80% ACTIVE* 80 WATER 70 WATER 62% ACID EQUIVALENT 60 60 50 50% SOLIDS 50 INERT 40 39% ACTIVE" 40 INERT 30 30% ACID 26% ACTIVE 20% ACID EQUIVALENT 10 TECH. PURE ACID. POWDER STANDARD LIQUID CONCENTRATED DUSTLESS FLAKES Ethylenediamine Tetraacetic acid (Tech. Pure) 99% Tetra Sodium Ethylene-Tetra Sodium Ethylene-Tetra Sodium Ethylene-Active* diamine Tetraacetate diamine Tetraacetate diamine Tetraacetate Principal 38-40% 78-80% 25-27% **Physical Form** Non-hygroscopic Flake Clear Liquid Clear Liquid Powder Density 1.2 (10#/gal) 1.3 (11#/gal) .6 (5#/gal) .7 (6#/gal) Molecular Weight 380 380 380 of Active Ing. 33.5 parts CaCO_s 100 Parts of 6.7 parts 10.0 parts 20.0 parts when used in alkaline **Nullapon Controls** CaCO₃ CaCO_a CaCO_a solutions 245 PPM CaCO₃ or . . . 1 oz. by weight in ten gallons of 49 PPM **73 PPM** 146 PPM when used in alkaline CaCO₃ CaCO₃ CaCO_a water controls solutions 200 lb. Drum 25 lb. Drum 5 lb. Drum 250 lb. Drum 25 lb. Drum 500 lb. Drum 50 lb. Drum 500 lb. Drum STANDARD 50 lb. Drum PACKING 10 lb. Drum 5 lb. Drum

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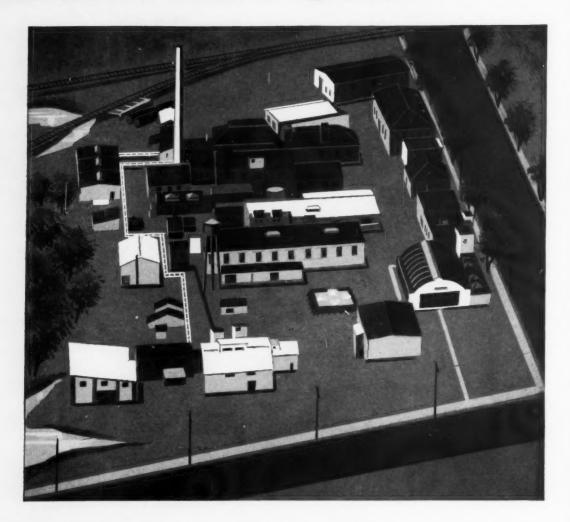
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Listed here are a few of the many outstanding Verona fragrances. Try them in your present oils and note the marked improvement.

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RESEDALIA To make your Lily and Lilac scents come thrillingly alive — add ½ to ¾%.

CYCLAMAL Add up to 5% — for a cleaner, crisper impact.

CUMIN KETONE See how only 1/4 to 1/2% added to your present floral fragrance heightens and freshens the effect.

> Sole Representatives in the United States for J. and E. Sozio, Grasse, France Natural Absolutes · Resinoides · Essential Oils

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Because Nacconol DB is strong, odesn't break down in mechanical mixing.

It's bulky, and gives your product more body per pound. It's dust free and remains so in your mextures. It keeps your detergent free flowing at all times and is absolutely uniform.



Nacconol is a better detergent ingredient for better mixtures—and as you well know: Better mixtures mean bigger sales!

GET YOUR FREE COPY of Technical Bulletin No. 316 containing test data on how Nacconol DB stands up in mechanical mixing operations. Get a sample, price and delivery quotation. A phone call or letter to our nearest office will bring them—promptly.

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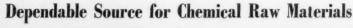
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China







J. Riccardi, President, Roman Cleanser Co., Detroit, Michigan.

"Wyandotte Caustic is particularly well suited to making a better bleach"

-J. Riccardi, President, Roman Cleanser Co.

"There is no secret in making a bleach that is stable, effective, and easy on the clothes and hands," states J. Riccardi, President, Roman Cleanser Company, Detroit, Michigan, a pioneer maker of household bleaches. "It starts with a pure Caustic which must not be contaminated with iron, and requires proper equipment and careful handling right through to the consumer.

"Wyandotte Caustic is particularly well suited to making a better bleach," states Mr. Riccardi whose experience dates back to 1919. "It's never over 3 or 4 parts per million iron. Once it gets to our plant, we see that nothing but pure rubber, plastic, or glass ever comes in contact with it.

"From our experience, we know that our Caustic from Wyandotte will always meet our requirements. The same holds true for the Chlorine we purchase from them. We know, too, that should we ever run into any difficulties, Wyandotte technical service is always as close as our telephone, ready to help us out. With this combination, our customers are always assured of getting the finest bleach money can buy."

Are you working with a supplier that controls quality with your products in mind? Are you getting the kind of technical assistance that is both prompt and practical? Wyandotte offers you qualitycontrolled chemical raw materials, and helpful technical assistance in putting them to work advantageously for you. May we serve you? Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.



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• For a cream base for cosmetics or for high quality soaps, toiletries and shaving creams; Swift's Cosmetic Grade Stearic Acid is especially manufactured to meet your demands for your most exacting customers and pros-

Swift's modern and unique processing facilities make possible the selective extraction of color bodies and other impurities. The resulting product can be depended upon to conform to specifications and be reliable in use. Its good odor, stability of color, and resistance to heat make Swift's Cosmetic

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Swift's single, double and triple pressed Stearic Acids are readily available from Swift & Company warehouse facilities throughout the U.S. They are but one branch of Swift's family of industrial oils and fatty acids that are daily serving diversified industrial needs. Check over the listing at left and write for further information on any of the many specialized Swift's products for the drug and cosmetic industry, and remember . . .

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Sulfonates

BOTH Refined and Pale OS GRADES

Sodium sulfonates . . . once only by-products of petroleum processing . . . have become active components in a surprising variety of products. Today they are manufactured to close specifications.

Shell Chemical Sodium Sulfonates improve the scourability of textile processing oils. In dry cleaning soaps, they provide an essential detergent action. In oils for metalworking, Sodium Sulfonates are emulsifying and anti-rust agents. For premium lubricating oils Sodium Sulfonates are extremely successful in making

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Shell Pale OS Sulfonates, except for their lighter color (ASTM Dil., color no. $-3\frac{1}{2}$ max.), have the same specifications as Shell Sodium Sulfonates, Refined. Whichever specification you require, you will find Shell Chemical the dependable source. Write for Technical Bulletins Sodium Sulfonates, Refined (62%) and Shell Pale OS Sulfonates.

SALES SPECIFICATIONS

Equivalent Weight, Min. . . 450
Inorganic Salts (as sodium sulfate), % w. Max. . . . 0.8
Sulfonate Content (waterfree basis), % w. Min. . . 62
Water Content, % w. 3.0-5.0



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One in a series of V-C Cleanser advertisements currently appearing in leading trade publications.



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V-C gives you higher mark-ups on cleansers because V-C mines and manufactures most of the raw materials that are used in cleaning compounds. V-C savings on the cost of raw materials mean extra dollars for you.

Active, vigorous advertising to largevolume users is helping V-C Dealers to sell more cleaning compounds to more people in shorter time. This advertising campaign is reaching owners, managers and operators of businesses in your community.

The quality of V-C Cleansers is unsurpassed. They are specially-formulated to make cleaning easier, faster, more economical. And they are granulated to prevent caking or dusting. These are benefits your customers can see and measure in terms of results and costs. This means repeat business, and more business, for you.

Mail the coupon below for complete details on how you can become a V-C Cleanser Dealer. Without cost or obligation, find out how it's easy to clean up with V-C Cleansers.



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Please send me details on V-C Cleansers and your profit plan for dealers. I am chiefly interested in cleansers for:

The food serving industry.

Maintenance cleaning in industries and institutions.

DOUBLE CHECKED / FROM RESEARCH TO INDUSTRY

you make emulsions or dispersions

SHARPLES...

Isopropylaminoethanols

Ethylaminoethanols • Diethylaminoethanol **Ethylamine** • **Isopropylamine**

CHOOSE the emulsifier which meets your requirements.

USE the most efficient emulsifier amines available.

ECONOMIZE in formulating without sacrificing performance.

A SELF-POLISHING FLOOR WAX **FORMULATION**

(From page 6, Technical Bulletin 222, Velsicol Corporation.)

FORMULA J

(Isopropylaminoethanols emulsifier formula) Syrex 200 8.0 14.0 Carnauba 8.0 Candelilla 3.0 Oleic Acid Isopropylaminoethanols 1.1 1.1 Borax Water 240.0

A few commercial emulsifying and dispersing applications of these amines:

- Abrasives for buffing compounds
- Textile and cutting oils
- Natural and synthetic waxes including paraffin
- Water based paints
- Cosmetic products
- Water proofing agents (alum-wax)
- Alkali-soluble resin cutting



Have you received a copy of Sharples Report 54-4, "Sharples Emulsifier Amines for Water Emulsion Floor Polishes"?







The scent of soap can be an impelling spur to sales

Tell your story well through the selection of the proper perfume. For suggestions and recommendations, ask the advice of the van Ameringen-Haebler soap perfumers who are unmatched in skill and experience in this field of scent.

Whatever you make to be used in water



HY-PHOS* makes it work better



HY-PHOS* is the most efficient agent

for water treatments in industrial processes

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The amazing new southwarf phosphate

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** Most chemically active... of all polyphotophoral

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Every step in the production of this and all NIALK chemicals is rigidly controlled to give absolute satisfaction in a variety of applications.

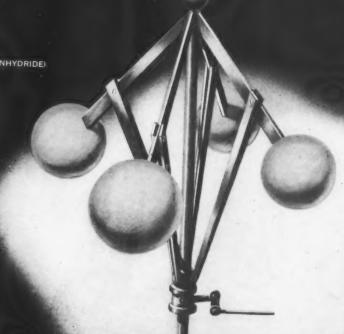
NIAGARA ALKALI COMPANY

60 East 42nd Street, New York 17, New York



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NIAGATHAL (TETRACHLORO PHTHALIC ANHYDRIDE)



Socrates was in search of truth, not an easy thing to find. If you are in search of fatty acids, you have a much easier job. But, of course, you want the best.

The SOYA BEAN FATTY ACIDS that A. Gross and Company produces are light in color, high in free fatty acid content and extremely stable. You can look far and wide before you will find anything that equals their quality and uniformity, and that exceeds the demands of alkyd resin producers for minimum color and chemical change under heat.

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Titre	25° 30°C.	25°— 30°C
Color 5¼" Lovibond Red Color 5¼"	2 — 4	5 — 10
Lovibond Yellow	10 - 30	30 60
Color Gardner 1933 Color Gardner 1933—	2 — 4	3 — 5
After Heat Test to 500°F.	4 - 7	
Unsaponifiable	0.3% 1.5%	3.0% max.
Saponification Value	198 - 202	195 — 200
Acid Value	197 - 201	194 — 199
Iodine Value (WIJS)	125 - 135	122 min.

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New BLOCKSON CATALOG just published!

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The new catalog provides complete, easy-to-read data—
formulas, properties, uses, etc.—on each Blockson Chemical listed
at right. The revised section on classification of Sodium
Polyphosphates will prove helpful in selecting the proper

Sodium Polyphosphate for your requirements.

The sections on water softening and water fluoridation contain basic information most frequently requested. Catalog includes useful tables, scales and other technical data.

As with previous Blockson catalogs, the handy pocket size (6 x 9) invites frequent, helpful reference.

Write for your copy or use coupon below.

New catalog lists complete data on each of these BLOCKSON CHEMICALS

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Anhydrous • Hydrated

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(Sodium Hexametaphosphate) (Sodium Tetraphosphate)

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Crystalline • Monohydrate

CHLORINATED TRISODIUM PHOSPHATE

DISODIUM PHOSPHATE
Anhydrous • Crystalline

MONOSODIUM PHOSPHATE

Anhydrous • Monohydrate

SODIUM ACID PYROPHOSPHATE

TEOX 120 Nonionic Surfactant

TEOX DETERGENT COMPOUNDS
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HYGRADE FERTILIZER

BLOCKSON CHEMICAL COMPANY, JOLIET, ILLINOIS

BLOCKSON CHEMICAL COMPANY - JOLIET, ILLINOIS

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improve bleaching performance...

with AUTOMATIC PREPARATION of SODIUM HYPOCHLORITE

For safe, efficient, low-cost preparation of sodium hypochlorite bleach solutions, manufacturers and processors are converting to automatic systems. Applied to both batch and continuous methods of manufacture, the automatic system has distinct advantages in preparing sodium hypochlorite solutions of improved stability and uniformity with minimum supervision.

Mathieson, a major producer of top-quality caustic soda and chlorine, can offer you complete information and comprehensive technical service on the installation and operation of automatic sodium hypochlorite systems. Call your Mathieson representative or write today.

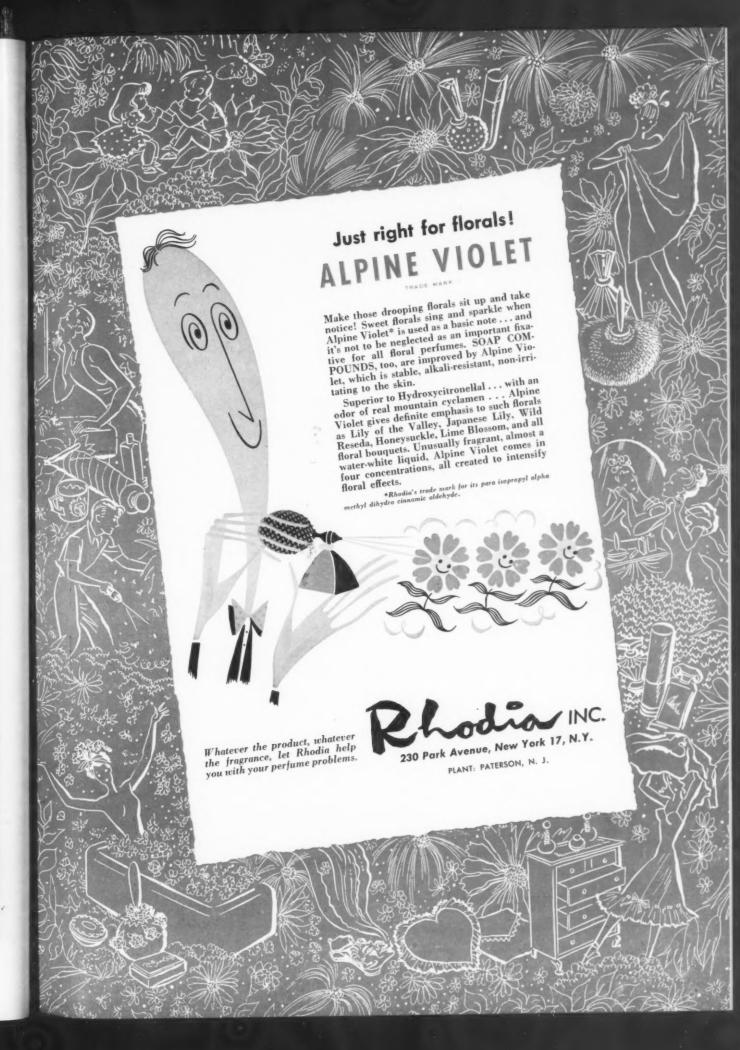
MATHIESON CHEMICAL CORPORATION

Mathieson Industrial Chemicals Division Baltimore 3, Maryland

caustic soda • soda ash • chlorine • sulphur • bicarbonate of soda dry ice and carbonic gas • 'ammonia • sodium nitrate • nitric acid hydrazine products • sodium methylate • sodium chlorite • methanol hypochlorite products • sulphuric acid • ethylene glycols and oxide

MATHIESON

2117



Proof of Cellulose Gum's Suspending Power CARBON BLACK CARBON BLACK CARBON BLACK CARBON BLACK IN WATER + 0.5% IN WATER + 0.5% IN WATER IN WATER

After thirty minutes, carbon black mixed in water has shown noticeable settling. Addition of only 0.5% of cellulose gum completely stabilizes the suspension and prevents settling even after six months.

HERCULES CMC

THIS ECONOMICAL SUSPENDING AGENT MEETS A HUNDRED AND ONE NEEDS

This photograph demonstrates the excellent solids-suspending properties of cellulose gum (purified Hercules® CMC). By adding merely 0.5% to the carbon black-water mixture, the carbon black remains thoroughly suspended—and will, indefinitely.

Hercules cellulose gum has exceptionally high purity (99.5%+); is compatible with a wide variety of gums, plasticizers, and resins; is insoluble in organic solvents; and is uniformly high in quality from lot to lot. Write for testing samples, indicating proposed uses so we may determine the proper types.

Cellulose Products Department HERCULES POWDER COMPANY 961 Market Street, Wilmington 99, Delaware



HERCULES CMC

...in brief

DAILY BATH So, daily bathing ruins your skin, or words to that effect, said a skin specialist addressing a medical meeting in Oklahoma City recently. This doctor said that statistics showed that nations where people seldom took baths had the least number of skin troubles. Maybe so, Doctor, maybe so. But, what statistics, - and who gathered them and what doctors made the diagnoses, and all that? In other words, how do you know? We always had the idea that in industrialized areas, for example, the unwashed were the main victims of dermatitis. And what about the skin situation in China where soap consumption is conspicuous by its almost complete absence? Got any figures on dermatitis there, Doctor?

Excessive and wrong use of soap, we imagine, might injure the skin, induce dermatitis. Just like salt may be a poisonous chemical in excess or eating too many frankfurters might bring on a belly ache. But from all we have seen and read, we thought that in a complicated, industrial civilization, dermatologists usually recommended washing the skin regularly with water and soap, even more than once a day if necessary. After all, darkest Africa and Asia are not the whole civilized world. Some of us have it tough and have to work in factories and on farms and get pretty crummy doing so.

Shoes cause corns. We wonder if this doctor wears shoes. Naturally, nature never intended us to wear shoes and feet are better off without them. Maybe that's something like using soap,—at least in theory. The practical test, however, might be found any midsummer Friday evening in the New York Subway during the rush hour. There, Doctor, you might discover more

about this daily bath business. There are two sides to this platter, old chappie!

SOME STUFF.... In and about the vicinity of Pumpkin Hollow, Ala., more DDT and other chlorinated hydrocarbon insecticides were used last month than during any month since 1946. Also last month, more babies were born there than during any previous thirty days in the community's history. Selah! The conclusion is obvious. DDT must have a direct bearing on the birth rate. Project the idea and we soon cover the whole State of Alabama,—and maybe even the entire U. S. Some stuff, this DDT!

This, according to Dr. Frank Princi of the University of Cincinnati Medical College is the sort of reasoning behind the attacks on chlorinated insecticides in the newspapers. Talking with him briefly after his recent address before CSMA in Cincinnati, he told us that he knows of no true evidence to support the alleged perils of DDT to the public, that the charges he has seen, -and he has seen them all, we can assure you,are wholly presumption and for his money just so much bunk which informed doctors do not take seriously. He stated that the attackers present only parts of the evidence which tend to support their contentions, ignoring the opinions of impartial experts and particularly our leading government authorities of the USPHS and USDA.

Coming from a professor of industrial medicine who has made a deep and continuing study of the subject, Dr. Princi's views could be mighty reassuring to the public. But will the newspapers give them front page billing? What a silly question!

MISNOMERS Possibly the insecticide industry,—and a lot of public officials to boot,—may be at fault in giving the public erroneous impressions and hence make them fertile territory for the seeds of exaggerated and untrue tales of insecticide dangers. Said Dr. Princi in this respect: "Until the insecticide industry finds better terms than 'toxic, toxicity, economic poison', terms less easily misunderstood by the public, it will continue behind the eight ball in its relations with the newspapers and the public."

The terms, "toxic" and "economic poisons", mean only one thing to the public, death by poison. The true meaning of these terms is unknown outside of scientific and industrial circles. Their very use in statutes, law enforcement and elsewhere implies a danger which is wholly relative and in fact seldom exists. They far outweigh in the public mind the great good and the indisputable necessity for insecticide use. But, year after year, they continue to be used and continue to be a bogey to the public.

The observation and comment of Dr. Princi finds many supporters among officials of the Department of Agriculture, among those who really know the score about insecticides. For years, they have been trying quietly to kill the term, "economic poisons", a relic of yesteryear. We feel that it's time their sensible efforts met success. Let's throw this antique in the ash can and keep "toxic" out of the newspapers,—that is if we want the public to know for sure that we're not a group of professional baby poisoners.

MARKETING With some exceptions, a few of them outstanding, the attention paid to marketing and merchandising of chemical specialties plays second fiddle to technical developments. If the same emphasis were placed on getting the public to use a product, and to continue to use it, as is given to the development of new formulations, we feel that sales could be upped considerably, more particularly in the chains. On the whole, we get the impression that the makers of polishes, waxes, insecticides, disinfectants, deodor-

ants, and the like are not doing nearly as good a merchandising job as are those of comparable products in the food field.

Naturally, bread and krispy krunchies may be more important to the average housewife than polish for her living room furniture. Most everybody buys bread, while we imagine that those who never buy any polish of any sort are legion. Obviously, the necessity for bread is greater, but there was a day when only a small proportion of the nation's households bought bread. The rest made it. Good merchandising sold baker's bread. We have a hunch that it could sell more polish, more insecticide, more of all the specialties. Don't get the idea that we're running down technical research or product improvement. Far be it from that. We just feel that the steam pressure on the marketing end might be raised a trifle.

ADULTERATION More and more buyers of refined carnauba and other natural waxes are going back to purchasing crude grades. They seem to feel that if there is going to be adulteration, they will do it themselves. In the first place, it is cheaper, and in the second place, they know how far they can go before they get all paraffin and no wax.

If there is a natural product shipped to the American market from far off lands which at some time or other has not been or is not adulterated, we would like to know what it is. Since time began, sophistication of natural products has been a bugbear to their users, starting often at the very source deep in the centers of production. And it has continued down through the ages to snag the unwary. Only the very naive believe that it ever ended, or that it does not continue today.

But all this history business is no excuse for loading it on too thick, and apparently that's what some of the wax shippers are doing today. It's also why synthetic products over the years have been able to knock out so many natural products marketwise. The cheating has always started away back in the woods and often has continued from there on out. Now, it seems the wax users are going to fool the cheaters. They are going to do the sophisticating themselves. It looks like the worm has turned.

as the reader sees it...

Like Station Publicity

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Everyone at this station was highly pleased over the fine publicity accorded the station on page 219 of the May issue of Soap. We are deeply grateful for this favor and hope we can repay you and your fine publication by progress in research if not in a more direct manner. Thanks from everyone.

W. C. McDuffie, In Charge Agricultural Research Service, Entomology Research Branch, U.S.D.A.

Orlando, Florida

The fine work the station has been doing deserve whatever tribute we may have paid to it and more, Ed.

Not a Soap-ologist

Editor:

A comment on the new name of Soap: I realize that the name "Soap" is an old name for the publication, but while changing it, why not just make it "Special Chemicals?" My comment is offered primarily because I am an entomologist and not a soap-ologist!

N. P. LARSON Hulmeville, Penna.

Clarissa, get me mah shootin' arn

quick! The man wants us to drop out the word "soap" from our name after all these 29 years. That was the original name of this baby, just one word, "Soap." Yes, we know that detergents are "chemical specialties" or "specialty chemicals," but, brother, they're still made and sold by the "soap industry" to the tune of 1½ billion dollars per year and they all read this sheet. And it's still known and called just "Soap" by lots of people.—Ed.

Amphoteric vs. Ampholytic

We would like to take issue with an article called "Detergent Sanitizers", April issue, Soap and Sanitary Chemicals, abstracted from the Manufacturing Chemist. We feel that the subject matter as described by Mr. R. Neu could stand considerable correction. The writer believes himself well qualified to criticize, having been engaged for at least twelve years in research on amphoteric surfactants, culminating in a number of patents (composition of matter) and patent applications. The Miranol Chemical Company, Inc., a licensee, has been engaged in the marketing of some of these products for industrial use for about five years.

To clarify descriptive terms, we prefer to use "amphoteric" rather than "ampholytic" surfactant, the latter being a contradiction of amphoteric electrolyte. Since common usage of "electrolyte" has come to mean an inorganic salt, such as sodium chloride, the description of a surfactant as an amphoteric electrolyte might be somewhat confusing.

Mr. Neu errs in two assumptions in his opening paragraph:

 That an amphoteric surfactant must combine detergent and disinfectant properties, and

2. That they must belong to the group of poly-(aminoethyl)aminoacetic acids. (A jackass is an animal, but not every animal is necessarily a jackass).

The range of compounds fitting the description of amphoteric surfactants (products containing anionic and cationic groups) is tremendous and their relationship in terms of their behavior is often only coincidental or illusory. They range all the way from products whose principal activity is in the catonic range, such as alkylbetaines, possessing practically no detergent qualities and being partially compatible with anionic detergents only in the highly alkaline range, while depressing their activity, to products the principal activity of which is in the anionic range, such as alkylamine glyceride monosulfate, compatible with some cationics, but will destroy or severely depreciate the phenol coefficient of quaternary germicides. They may range from products mild to the skin to severe prime irritants. Particularly products which contain secondary and/or tertiary amine (although tertiary amine less so) and a C 12 alkyl group, if their cationic activityis greater than their anionic activity and if used at pH below 7, are potentially dangerous. They may form internal esters and reaction products which may require the heating of the product before a solution can be effected, or they may be perfectly balanced so that

(Turn to Page 99)

Roach pulling Gulf tankwagon was raised under direction of entomologist Arnold Mallis of Gulf Oil Corp., Pittsburgh, author of the newly revised "Handbook of Pest Control", which has just been published by Mac Nair-Dorland Co., publishers of SOAP & CHEMICAL SPECIALTIES. Ted Welsh of Gulf thoughtfully sent us the photo of the roach, which he says Mr. Mallis has dubbed "Blaberus giganteus."



New Soap Germicide

By Edwin I. Stoltz and Charles H. Rogers

R. T. Vanderbilt Co.

INCE the early teachings and practices of Lister, Pasteur, and Semmelweis, which are the basis for our present-day knowledge of asepsis, man has been constantly searching for new, more powerful, and non-selective germicidal compounds. With continued scientific progress, carbolic acid, alcohol, the halogens, heavy metals, various soaps, and a multitude of other inorganic and organic compounds have been employed and often discarded as germicides as being of little value or too toxic to the host.

Recently, a new and unique non-toxic compound, designated as "Vancide 89",* was discovered by Kittleson (1,2,) at the Esso Laboratories of the Standard Oil Development Company. This compound was found to possess an unusually wide antimicrobial spectrum in both laboratory and practical field testing.

"Vancide 89" is known chemically as N-trichloromethylmercapto- 4 -cyclohexene -1, 2- dicarboximide and is widely accepted as a fungicide in the agricultural chemical field where it is known as "Captan", "SR-406", or "Orthocide 50". Throughout this paper the "Captan" designation will be used. The compound is an odorless, colorless, water insoluble, crystalline compound that is slightly soluble in many of the more common organic solvents. It is stable in the presence of moisture at room temperature for prolonged storage periods. Heating at 100° C. for several days results in decomposition (3).

An extensive testing program covering three years of research

and development by several laboratories has consistently shown that the new germicide is more effective against both Gram-positive and Gram-negative bacteria, as well as against various important fungi, than other commercial germicides now available for incorporation in soap formulations (see Table 1). This paper is concerned with describing the use of the compound in soap for the ultimate degerming activity which is necessary for such diverse commercial applications as in the home, in industry, and also in aseptic surgery.

Soaps, which are the sodium and potassium salts of the higher fatty acids, are mildly antiseptic in themselves. Probably what disinfectant action they possess may be accounted for on the basis of mechanical removal of microorganisms by emulsification of the lipoidal secretions of the skin in which the "resi-

dent" and many of the "transient" bacteria become embedded. It is reasonable to assume, therefore, that the incorporation of an active germicide in soap would greatly increase disinfection of the skin.

The selection of the ideal germicide is then very important for such a soap formulation. For example, the halogens and quaternary ammonium compounds are known to result in decreased activity in the presence of organic matter; the use of heavy metals, such as mercury, may prove to be toxic and irritating to the skin after prolonged exposure; and the choice of a compound, the germicidal activity of which is narrowly selective to one type or class of microorganism should be avoided. No germicide has been found to be perfect in all its inherent characteristics, but it is believed that Captan has the following properties that make it an ideal germicide.

TABLE I — The Results of Germicidal Activity of Captan by the Penicillin Button Technique, Agar Incorporation Method and Other Standard In-Vitro Tests.

	Te	sts.	
	Bac	teria	
Gram Negative			Positive
	PPM ³²		PPM*
Aerobacter aerogenes	100	Bacillus subtili	is 25
Alcaligenes faecalis	25	Micrococcus py	rogenes,
Escherichia coli	25	var. aureus	25
Pseudomonas aeruginosa	100	Micrococcus py	yogenes,
Proteus ammoniae	25	var. albus	25
Salmonella schottmuelleri	25	Sarcina lutea	25
Salmonella typhosa	25	Streptococcus	aecalis 25
Salmonella cholerasuis	25		
	Fui	ngi	
Asperg	illus nige	r 50	
Nocardia asteriodes			
Histoplasma capsulatum Penicillium citrinum		sulatum 0.39	
		num 50	
Trichophyton interdigitale			
NOTE: Parts per million sl	nowing c	omplete inhibition	

^{*}Registered trade mark. Licensed to R. T. Vanderbilt Co., Inc. by California Spray Chemical Corp. for industrial applications.

TABLE II—The Results of Hand Washing Tests with Captan Bar Soaps (5th Basin)*

		Per cent reduction			
Germicide	Time (Days)	of bacteria			
1% Captan** 1% Captan	5	43.40 97.30			
1% Captan	10	97.36			
2% Captan	5	54.47			
2% Captan	9	98.14			
2% Captan	10	98.33			

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**Based on total formulation.

- 1. High germicidal power: A germicide must kill at low concentrations and should not be selective in activity. It must be equally effective toward non-pathogenic and pathogenic bacteria, yeasts, or molds.
- 2. Stability: The compound in itself should not be adversely affected by organic matter, moisture, heat, or a wide range in pH. This should also hold true when the germicide is finally formulated as a commercial product. White toilet bar soap containing the new germicide does not discolor during the average shelf-life of the product.
- 3. Solubility: The ideal germicide is one which will dissolve in all proportions in water, although this is not too important if the compound has high germicidal properties. Solubilization of Captan for use in soaps, cosmetics, and liquid detergents is achieved only by a special method.
- Non-toxicity: The germicide must be non-toxic and non-irritating to man or animals in much

higher concentrations than are used to disinfect efficiently.

- 5. *Uniformity*: The germicide should be uniform in composition and should never vary from one production batch to another.
- 6. Low Cost: The germicide should be relatively inexpensive. An expensive germicide may cause the soap manufacturer to use concentrations of borderline efficiencies, or may price the soap out of the commercial market altogether.

Toxicity Tests

John toxicity test programs by both the Institute of Industrial Medicine, New York University, Bellevue Medical Center and Food Research Laboratories, Inc., have found that Captan is non-toxic in higher levels than would normally be used in soap. The acute oral toxicity tests with rats show an LD₅₀ of 9,000 mg/kg and for rabbits 2,000 mg/kg, with the surviving animals displaying good weight gain. Patch tests on human subjects with direct application of 50 percent

aqueous pastes of "SR-406" (Captan) showed irritation and the possibility of mild sensitization. The highly purified material at the same level showed distinctly less irritation (5).

Two-year diet incorporation studies with the new germicide at levels of 0.025, and 0.25, and 1.0 percent, respectively, on albino weanling rats weighing 50 grams at the beginning of the tests resulted in the following conclusions:

- 1. Weight gain was not impaired except at the highest level of 1.0 percent germicide. These animals did not overcome the initial set-back in weight because of a lowered food intake during the early weeks of the test program.
- No decisive deviations were seen in the weights of the internal organs.
- The hemoglobin analyses were in the normal range for all groups.
- Both total and differential leucocyte counts showed no deviation that could be associated with the germicide treatment.
- There were no gross or microscopic pathological changes definitely attributable to the compound.

Irritation tests in soap formulations showed the chemical to be safe for continued use by humans. Using the Draize technique (6), mucous membrane irritation tests in the rabbit eye with 0.1 percent active germicide in a soap solution showed that the germicide soap did not increase the mild mucous membrane irritation that was produced by the control soap per se.

Subacute skin toxicity tests on intact and abraded rabbit skin with 0.12 percent of the germicide applied as 22 daily, six hour applications showed that the soap itself was capable of inducing a very mild, transient, erythema, but this condition was not intensified by the presence of the germicide.

Recently, N-trichloromethylmercapto-4-cyclohexene -1,2-dicarboximide was introduced in a commercial soap formulation for daily

TABLE III-The Results of Hand Washing Tests with Captan Liquid Soap

Time	of bacteria
Tuesday	14.0
Wednesday	25.6
Thursday	98.7
Friday	99.+
Monday	96.4
	Tuesday Wednesday Thursday Friday

*Based on anhydrous soap content. Actual amount was 0.36% Captan.

^{*}Cade modification of the Price serial basin method.

use by thousands of workers engaged in a heavy, public utility type of industry. After many months of continued usage and under the most practical conditions there has not been one instance of toxicity or irritation reported to the medical authorities in charge. These results have further shown that the incidence of dermatitis caused by bacteria and of secondary infection in breaks in the skin was greatly diminished by the daily use of the germicidal soap.

Germicidal Efficiency

T has been noted many times that a compound in laboratory tests by itself may show excellent germicidal properties. In many instances when the chemical is added to a commercial formulation, such as soap, the reverse may result, with little or no germicidal activity. Also, it is not practical to describe the germicidal characteristics of a compound unless it is formulated and subsequently tested as it would appear and be used in its final commercial form. Therefore, in the soap industry, the true and accepted disinfectant index of a germicidal compound is expressed through controlled hand washing tests using the experimental toxicant soap.

Hand washing tests were performed by several laboratories over the past two years on the germicide in bar, powder, and liquid soap preparations. The selection of the type of hand washing test was left to the discretion of the laboratory running the test, but in most instances the Price Serial Basin method (7), or the Cade modification (8) of the Price test was chosen. Since these detailed test methods have been published many times and are readily available to interested personnel, repetition here is deemed unnecessary at this time.

The data of the per cent reduction of bacteria on the hands were averaged from seven different tests and are shown in Table 2. Results indicate that after five days' use, three times daily with

soap, using one percent of the germicide, the reduction of bacteria on the hands was 43.4 percent. Under the same conditions with soap containing two percent germicide, the bacterial reduction was 54.47 percent. After the ninth day, subjects using the first soap showed a 97.30 percent reduction of bacteria, while 98.14 percent bacterial reductions resulted with the subjects using the two percent soap. The 10 day platings continued to show the same excellent degerming efficiency as noted above after nine days' use of the germicidal soap.

The use of the compound in liquid soap shows exceptional promise in reducing the bacterial flora of the skin. A level of one percent germicide based on the anhydrous soap content has shown excellent degerming properties in many hand washing tests. Furthermore, these tests show that the compound in liquid soap persists on the skin for at least two days, offering germicidal activity after use of the soap has stopped.

In such tests a modified basin method was employed where the subjects washed their hands for one minute three times daily from Monday through Friday. A rubber glove was put on the right hand while the left hand was washed with the control soap. Then the procedure was reversed with the rubber glove on the left hand and the right hand washed with germicidal liquid soap. At the second daily wash period at 11:30 a.m., sterile gloves and only control soap were used with plate counts being made from the basin wash water. Plate counts were made daily from Tuesday through Friday and finally again on the following Monday. In utilizing such a test method the daily reduction of bacteria can easily be noted.

The results of hand washing tests with the germicidal liquid soap are shown in Table 3. After one day the bacterial reduction was 14.0 percent, which figure rapidly increased with use of the soap until the fourth day's count

showed a high of 99:+ percent reduction. The plate count on the following Monday shows that residual amounts of the germicide persist on the skin with continued excellent degerming activity. The residual lag effect of the germicidal liquid soap is very important when the use of germicidal liquid soap is interrupted for a short period of time, such as during a weekend, and when control of the skin bacterial flora is desired.

These results clearly show that the new compound is a powerful germicidal agent for use in soap for the home, and for all types of industrial and medical (surgical) installations. The new compound can also be incorporated in shampoos, shaving creams, deodorant creams, waterless hand cleaners, and liquid detergents.

Summary

- 1. Captan or "Vancide 89" (N-trichloromethylmercapto 4-cyclohexene-1,2-dicarboximide) is a new bactericide-fungicide that possesses an extremely wide germicidal spectrum. In soap formulations it also has a phenol coefficient of 80-110 against both M.pyogenes, var. aureus, and 40 against Salmonella typhosa.
- Exhaustive laboratory and field trials have repeatedly shown that the new compound is nontoxic and non-irritating for human use in soaps and cosmetic preparations.
- 3. The low cost of the germicide coupled with low levels of use in the commercial formulation are added advantages for this new compound. It is suggested that 1.0 percent of the compound, based on the anhydrous soap content, be used in bar, liquid, and powdered soaps.
- 4. The daily use of the germicidal soap is advocated to reduce and maintain at a practical minimum the bacteria and fungi responsible for dermatitis and secondary skin infections.
- 5. The new compound does not (Turn to Page 109)

Classifying Detergents

Qualitative differentiation between commercial detergents of the anionic and nonionic types into sub-groups can be done by series of simple tests

By J. V. Karabinos, G. E. Kapella and G. E. Bartels

Research Laboratories, Blockson Chemical Co.

HE systematic classification of the various organic detergents present in commercial mixes has always presented a difficult problem. With the advent on the market of a host of new synthetic detergents, particularly of the nonionic variety, the earlier methods of differentiating are somewhat incomplete. The object of this study is to provide a convenient series of simple tests which give even the least-experienced laboratory worker a method for classify-

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ing the anionic and nonionic detergents into their various sub-groups.

The majority of the synthetic detergents belong to the anionic and non-ionic types. In order to understand the subsequent tests better, some of the detergents warrant further description. The following table lists the various types tested along with structural formulas. Several trade names for each type of synthetic detergent are also indicated for the convenience of the reader.

Though other types of detergents are known, they are not as extensively used as the ones tested herein and hence were not included in this study. It should be possible, however, to differentiate at least some of them by this series of qualitative tests,

Experimental Details

Reagents

Ceric nitrate reagent—Twenty grams of ceric ammonium nitrate was dissolved in 50 ml. of 2

TABLE I. Types of some anionic and nonionic detergents

	Type	Structure Formula	Trade Names
I.	Alkylaryl sulfonates	$R-C_6H_4$ - SO_3Na	Kreelon, Nacconol, Oronite, Santomerse and Ultrawet
II.	Alkyl sulfates	R-CH ₂ -OSO ₃ Na	Duponol, Petrowet, Stepanol and Tergitol
III.	Fatty esters of sodium isethionate	RCOOCH, CH, SO, Na	Igepon
IV.	Fatty amides of taurine	RCONHCH,CH,SO,Na	Igepon
V.	Polyoxyethylene alklyphenol sulfates	$R-C_6H_4-O-(CH_2CH_2O)_n-SO_3Na$	Alipal
VI.	Polyoxyethylene alkylphenol	R-C ₆ H ₄ -O-(CH ₂ CH ₂ O) _n -H	Igepal, Oronite Disp. and Triton
VII.	Polyoxythylene fatty esters	R-COO-(CH,CH,O),-H	Myrj, Nonisol
	Polyoxyethylene tallates	R-COO-(CH,CH,O),-H	Renex, Sterox and Teox
IX.	Polyoxythylene fatty ethers	R-O-(CH,CH,O),-H	Brij, Sterox and Tergitol
X.	Polyoxyethylene thioethers	R-S-(CH,CH,O),-H	Cerfak, Nonic and Sterox
	Polyoxyethylene polyoxypropy- lene	[-(C ₁ H-CH ₂ O) _x -(CH ₂ -CH ₂ -O) _y -] _n CH ₂	Pluronic
XII.	Sorbitan fatty esters		Span
XIII.	Polyoxyethylene sorbitan fatty esters		Tween ,
XIV.	Alkanolamides	RCOONH-CH,-CH,OH	Ninol, Onyxol

"It should be noted that it is possible to indicate only a few trade names here. For a more extensive listing, the reader is referred to J. W. McCutcheon, "Synthetic Detergents," **Soap and Sanitary Chemicals.** July through October, 1952.

N nitric acid. Dissolution was accelerated by heating.

Chloroform - aluminum chloride—A c.p. grade of chloroform and technical anhydrous aluminum chloride were used.

Bromine water—Four ml. of liquid bromine was shaken with 200 ml. of distilled water to give a saturated aqueous solution.

Potassium permanganate solution—Two grams of c.p. potassium permanganate was dissolved in 100 ml, of distilled water. The reagent should be prepared fresh once a week.

Alcoholic potassium hydroxide solution—Four grams of potassium hydroxide was dissolved in 100 ml. of 95% ethanol.

Acetic anhydride and sulfuric acid—The acetic anhydride was of a good technical grade (99-100 percent) and the sulfuric acid reagent was prepared by adding c.p. sulfuric acid to distilled water to a sp.g. of 1.5.

Preparation of Samples

ESSENTIALLY 100 percent active detergents are used directly in these test procedures. When present in compounded mixes, approximately 10 grams of the mix may be extracted with 95 percent ethanol and after evaporation of the alcohol and water from the extract, the solid or liquid residue may be used as is in the subsequent tests.

Qualitative Tests

reagent (0.5 ml.) is diluted with three milliliters of distilled water and the equivalent of three drops of organic detergent is added to the solution. Any deepening in the light yellow color of the reagent is regarded as a positive test.

This test is specific for hydroxyl groups so that nonionic polyoxyethylene detergents as well as sorbitan esters of fatty acids and the alkanolamides gave positive tests with this reagent. The test was not given by soaps and by the ordinary anionic detergents. However, a fatty ester of sodium isethionate, originally prepared from ethylene oxide, did give a positive test.

Alumninum chloride-chloroform—Five drops of organic deergent are dissolved or suspended
in two ml. of chloroform and approximately one gram of anhydrous
aluminum chloride is added to the
mixture. Any discoloration of the
aluminum chloride is regarded as
a positive test. In this test the color
of the insoluble aluminum chloride, as well as that of the chloroform solution, is noted in five minutes.

With aromatic compounds such as the alkylaryl sulfonates and the polyoxyethylene alkylphenol ethers the color of the originally light gray aluminum chloride changed to reddish brown and the solution remained colorless. With the ethylene oxide condensates of tall oil or unsaturated acids such as oleic, the aluminum chloride turned brown and the chloroform solution also assumed a brown coloration. The saturated fatty acid esters and the unsaturated fatty alcohol ethers caused the aluminum chloride to turn a tan color with the chloroform becoming yellow. Several alkyl sulfates tested including some of the "Igepons" showed a definite green coloration of the aluminum chloride which appeared to be specific for this type of compound. A sodium soap prepared from tall oil likewise gave a brown colored aluminum chloride though the solution assumed a pink coloration. The saturated fatty acid alkanolamides and soaps as well as the "Pluronics" series and sorbitan monolaurate gave negative tests with this reagent in that the aluminum chloride remained gray and the solution assumed no coloration. Careful application of the aluminum chloride-chloroform test perhaps gives the best clue as to the identity of an organic detergent.

Bromine water—To five ml. of aqueous solution containing two drops of detergent, saturated bromine water is added dropwise until the yellow color of the bromine persists. The addition of more than 10 drops of bromine water was regarded as positive, the addition of three

to five drops as slightly positive and the addition of one drop as negative,

The alkyl phenol ethers gave positive tests but took up the bromine water slowly probably because of a substitution reaction rather than addition. The tall oil ethylene oxide esters and soaps as well as ethylene oxide esters and ethers of unsaturated fatty acids and alcohols took up the bromine very rapidly as did the dodecyl thioether nonionics. Slightly positive tests were given by ethylene oxide esters of saturated fatty acids and by the "Pluronics" indicating the presence of a small degree of unsaturation. Negative tests were given by the ethylene oxide ethers of saturated alcohols. by sorbitan monolaurate and by the alkylaryl sulfonates and the alkyl sulfates.

Potassium permanganate—One drop of two percent of aqueous potassium permanganate solution is added to two ml. of aqueous solution containing two drops of substance to be tested. Discoloration of the violet permanganate color to a brown solution or precipitate within one minute is regarded as a positive

Most alkylphenol ethylene oxide condensates gave a negative test though a few including the thioethers gave slightly positive tests showing the presence of unsaturation. The tall oil and unsaturated fatty acid derivatives gave immediate discoloration as well as commercial fatty acid alkanolamides and sorbitan derivatives. Negative tests were shown by the ethylene oxide condensates of the saturated alcohols as well as by the alkylaryl sulfonates and the alkyl sulfates.

Alcoholic potassium hydroxide—Five ml. of alcoholic potassium hydroxide is boiled with 10 drops of substance in a test tube for two minutes with care. After cooling and addition of five ml. of distilled water, the mixture is neutralized by addition of concentrated hydrochloric acid. The formation of a precipitate or milkiness is considered as a positive test for esters.

The test was not given by

ether derivatives such as the "Pluronics", alkylphenol or fatty alcoholethylene oxide condensates or by sulfates. Alkylryl sulfonates, however, gave a positive reaction in this test. One exception appears to be the dodecyl thioethers which gave a white precipitate. Upon neutralization a characteristic organic sulfur odor became evident which may be used for identification.

Acetic anhydride - sulfuric acid—This test is a modification of the original Liebermann-Storch test for rosin derivatives. To three drops of detergent in two ml. of acetic anhydride is added one drop of sulfuric acid of sp.g. 1.5 and the presence of an immediate violet coloration is taken as a positive test. The violet color fades very quickly to a brown or dark green.

This test was specific for all tall oil derivatives such as the polyglycol esters and the tall oil soaps. No change in color was noted by any of the other detergents tested.

Discussion of Tests

THE six qualitative tests allow the observer to classify the detergent into the various types listed in Table II. The method has been used successfully with a number of detergents in each category. It naturally becomes less effective in cases where mixtures of detergents are present. In those cases, the detergent giving the largest number of positive tests will show up. For example, a tall oil polyglycol derivative will show positive results in all the tests even in the presence of any of the other detergents.

It is recommended that all six tests be performed on a detergent and the results be compared with those in Table II in the order shown. It should be pointed out that commercial detergents are not pure products and a so-called saturated fatty acid may on occasion give rise e.g. to a slightly positive test with bromine water or permanganate because of the presence of a small amount of unsaturation. In doubtful cases the observer should carry out control analyses with detergents of known composition.

Summary

SERIES of six organic qualitative tests have been successfully applied to the classification of various types of anionic and nonionic detergents.

Table II. Summary of Qualitative Tests on Various Types of Organic Detergents

	Formula ² Type	Ceric Nitrate	Chloroform Aluminum Chloride	Bromine Water	Potassium Permanganate	Alcoholic Potassium Hydroxide	Acetic Anhydride Sulfuric Acid
Polyoxyethylene tallates	VIII	+	+	+	+	+	+
Polyoxyethylene unsaturated fatty esters	VII	+	+	+	+	+	_
Unsaturated fatty acid esters of sodium isethionate	III	+	+*	+	+	+	-
Polyoxyethylene saturated fatty esters	VII	+	+	SL+	+	+	_
Polyoxyethylene sorbitan monolaurate	XIII	+	+,	Sl.+	+	+	_
Polyoxyethylene unsaturated fatty ethers	IX	+	+	+	+	-	-
Polyoxyethylene alkylphenol sulfates	v	+	+	+	-	+	_
Polyoxyethylene alkylphenols Commercial fatty acid	IV	+	+	+	_e	_	
alkanolamides	VIX	+	-	+4	+4	<u>+</u>	_
Polyoxyethylene thioethers Polyoxyethylene polyoxy-	Х	+	_	+	<u>+</u>	+"	_
propyenes	XI	+	-	SI.+	+		
Sorbitan monolaurate	XII	+		_	+	+	-
Polyoxyethylene fatty ethers Sodium tallate (rosin or tall	IX	+	_	_	-	_	_
oil soaps)	_	_	+ 6	+	+	+	+
Fatty amides of taurine	IV	-	- -8	+	+	+	—e
Alkylaryl sulfonates	I	_	+	_		+	
Insaturated alkyl sulfates	II	_	+ 8	+	+	_	(Mathematics)
Saturated alkyl sulfates	II	_	+ "	_	-	_	_
Sodium stearate (Soap)	_		-	+	_	+	_

See Table I.

Pink solution.

^{*} Prink soudon.

*Negative on most, sl. + on a few.

*Negative on most, sl. + on a few.

*A completely saturated fatty acid alkanolamide such as lauryl isopropanolamide gave negative tests with bromine water and permanganate.

*Several "Igepons" prepared from tall oil gave positive tests.

*Upon neutralization of the precipitate a characteristic organic sulfur odor was noted for the thioethers.

*Green coloration of aluminum chloride.

T.G.A. Elects Ewald

OHN A. Ewald, president of Avon Products, Inc., New York, was elected president of the Toilet Goods Association at the 19th annual convention, held at the Waldorf-Astoria Hotel, New York, May 11-13. Mr. Ewald succeeds Davis Factor, president of Max Factor & Co., Hollywood, Calif

Pierre Harang, Houbigant Sales Corp., New York was elected vice-president to succeed Mr. Ewald. Other vice-presidents elected were A. E. Johnston, Colgate-Palmolive Co., Jersey City, N. J., who replaced H. J. Lehman, Wildroot Co., Buffalo, N. Y. who resigned, Jean Despres, Coty, Inc., New York re-elected and Charles T. Lipscomb, Jr., president of the Pepsodent Division of Lever Brothers Co., New York, was re-elected.

Philip C. Smith, president of Yardley of London, Inc., New York was re-elected treasurer and William F. Denney, Jr., president of Francis Denney, Philadelphia, was re-elected secretary.

The following directors were elected for a three year term: B. L. Emery, Chesebrough Mfg. Co. Consolidated, New York; William Hunnefield, Jean Nate, Inc., New York and Northam Warren, Jr., Northam Warren Corp., Stamford, Conn. Directors re-elected for a three year term were: Edward J. Breck, John H. Breck, Inc., Springfield, Mass., Oscar Kolin, Helena Rubinstein, Inc., East Hills, N. Y., and Wrisley B.



C. T. Lipscomb Vice-president

Oleson, Allen B. Wrisley Co., Chicago. New directors representing associate members elected were: Dr. Victor G. Fourman, Syntomatic Corp., New York and Paul E. Roehrich, Richford Corp., New York. Robert E. Schwartz, Wildroot Co., Inc., Buffalo, N. Y. was elected director for a two-year term to replace A. E. Johnston, who was elected vice-president.

The meeting was opened by Mr. Factor, who reviewed the association's work during the past vear. He emphasized that the reduction of the Federal Excise Tax on cosmetics was not automatic and that there was considerable work done over a long period before the tax was reduced. He stated that a tremendous campaign had been carried on since the close of World War II to impress legislators with the fact that a tax on the products of the industry was an inequity. He said that TGA would continue to work for the complete elimination of the tax.

Mr. Factor discussed the total yearly sales of the industry, noting that for the second straight year, the sales volume exceeded one billion dollars and showed a respectable increase over the preceding year. He stated that most channels of distribution showed an increase, with the exception of a small decline in drug store and variety store sales. He stressed that, even with increased sales, the industry must not stop their creative



S. L. Mayham Exec. Vice-president

efforts and continue in the presentation and promotion of the products to the consumers.

Mr. Factor continued with a discussion of the survey of the industry that had been prepared for the industry last year. He asked the members to contact S. L. Mayham, executive vice-president, and express their opinions of it and suggestions for its improvement. He expressed the opinion that it could be "a very valuable instrument to the TGA".

Mr. Factor reviewed the Defense Department's request for an educational program for the women in the armed forces on good grooming. The hostilities in Korea ended and this particular urgency somewhat lessened, but the TGA continued with a portion of the original program and has nearly completed a manual on good grooming that will aid women in the armed forces in the proper uses of cleansing and beauty aids. Due to changed conditions, the sending of a personal representative to the various recruiting stations has been held up at the request of the Defense Department.

Mr. Factor discussed the pending proposal of the Food and Drug Administration in seeking to remove certain coal tar dyes from the certified list for use in cosmetics. Mr. Factor stated that the removal of these dyes would "cause a great deal of inconvenience and hardship in our industry and,

frankly, we can see no sound logical reason for their use to be denied to the cosmetic industry". He continued by stating that their restriction in the food industry shouldn't necessarily be followed by their restriction in other industries.

Another matter which Mr. Factor discussed was the proposal by the Randall Committee to double the present duty-free limit and permit \$1000 in merchandise to be brought in from foreign countries by an individual every six months. This "would have dire consequences to the perfume and fragrance segments of our industry", Mr. Factor stated.

Mr. Factor concluded with a review of the year and the advances made by the association. He expressed his thanks to the various people with whom he worked during his term as president.

Stephen L. Mayham, executive vice-president read the treasurer's report for Philip C. Smith, who was in Europe. Mr. Mayham

then continued with his own report of the industry. He gave a brief review of the work done on the halving of the Federal Excise Tax on cosmetics. Mr. Mayhan: then discussed "another somewhat mitigated headache" in industry relations with the Federal Trade Commission in regards to the use of the words "indelible", "nonsmear", "no-smear", and "smear proof" and words of like meaning used to describe the newer types of lipsticks. If these words had been banned, as the Commission originally planned, a "further development of the lipstick market and especially the market for lipsticks of the newer type would have been halted." The problem was overcome by using the word "type" in immediate conjunction and in the same style type.

Mr. Mayham discussed in detail the Food and Drug Administration experiments in feeding large dosages of coumarin to certain kinds of experimental animals. Certain certified colors were fed to

experimental animals in the same manner. On the basis of these experiments coumarin has been barred in foods and the dves have been classified as dangerous and subject to removal from the list of certified colors. Decertification proceedings have been started against three colors, Oranges Numbers 1 and 2 and Red Number 32. Mr. Mayham stated that the Administration's division of pharmacology is running tests on the entire list of coal tar colors now certifiable as F. D. & C. Colors. It has undertaken further study on a list of some 50 chemicals used in food and flavoring industries and also to some extent in cosmetics.

Mr. Mayham mentioned a decision in a case regarding price discrimination under section 2(a) of the Robinson-Patman Act in which the Court held that the Commission on violations of this section must prove an adverse effect upon competition. In other words, it was not sufficient to prove that there had been discrimination in price as between two customers, but an adverse effect upon the competitive situation also had to be proven.

At the conclusion of the morning session, a luncheon was held at which time the Charles S. Welch Packaging Awards for 1953 were presented by Joseph Keho, Dorothy Gray, Inc., New York. The two awards went to Velo-Derma, Ltd., division of Charles of the Ritz, Inc., New York, and Mennen Co., Morristown, N. J. The former for the most outstanding package in the opinion of the judges in 1953 in the price classification of over \$1 and the latter for items \$1 or under. The winning packages were the Velo-Derma treatment line and Mennen's men's line. Richard Solomon accepted on behalf of Velo-Derma, while W. C. Mennen, sr., accepted for Mennen

The afternoon session consisted of a panal discussion on "Advertising and Merchandising in the Toilet Goods Field". Pierre Harang was moderator for the panal con-

Convention Committee for T. G. A. 19th Annual Convention, Waldorf-Astoria Hotel, New York, May 11, 12, 13

Standing left to right: John Duncan of Hazel Atlas Glass Co.; Lee Simmons of Imco Container Corp.; Chancey M. Depew of van Ameringen-Haebler, Inc.; John L. Foy of Publicker Alcohol & Chemical Sales Corp.; Norman Liman of The Lord Baltimore Press. Seated left to right. Frances Kiernan of C. H. Forsman Co.; Carolyn Jackson of Hudnut Sales; Kathryn Colton of Morningstar-Nicol, Inc., co-chairman of the committee; Neva Bradley of Daggett & Ramsdell; Margaret Ryan of Parfums Schiaparelli. Note: H. Robert Miller of White Metal Mfg. Corp., the other co-chairman of the committee was unable to be present when the photograph was taken.



sisted of six speakers from the various phases of the industry. A question and answer period followed a brief talk by each of the panalists.

The first speaker, J. I. Poses, D'Orsay Sales Corp., New York, described the development of their company through the use of advertising.

Miss Van Davis, Ellington & Co., New York advertising agency, spoke on the types of advertising used to sell cosmetics. She stated that glamour and marriage were most stressed in advertising. She mentioned that advertising should be aimed at the world women actually live in and not the dream world they think about.

Jean Despres, Coty, Inc., New York, spoke briefly on the effects of wide scale advertising of all large companies cancelling out each other in effectiveness. He stated that imagination was the most important thing in advertising and that too many stores took the toilet goods department for granted.

Dr. Otto L. Tinklepaugh, J. M. Mathes Co., New York, compared the presentation of toilet goods to the women of this country with the courtship days. In courtship, you place yourself in such a position so the lady will notice you. By using this approach in selling toilet goods, you can work out a sales approach that works.

Mrs. Estee Lauder, Estee Lauder Cosmetic Co., New York spoke on the direct selling technique. She stated that her approach was to gain the confidence of the customer and not oversell a product. A uniform sales story in all stores handling the product prevents conflicting claims and goes a long way toward gaining consumer confidence. The final speaker, Meyer Katz, Gimbel Brothers, New York, said that national advertising was done to perfection, but point of sales advertising was weak. Uniform signs, neatly and prettily decorated counters were needed to sell the product at the point of sale. He indicated that toilet sales in large department stores were better this year than

last year, however, large department stores must get direct return for their advertising dollar. Sales must appear the next day after the advertising appears.

Scientific Section

CERTAIN new salts of fatty alcohol sulfate have gained commercial importance in the last few years, Dr. Serge Giers, senior vice president and technical director, American Alcolac Corp., Baltimore, told the T. G. A. Scientific Section Meeting, May 13.

In the paper, "New Lauryl Alcohol Sulfates," written by Dr. Giers and Dr. Denise Boido of Sinnova of France, affiliate of Alcolac, Dr. Giers said that the future of these new sulfates is in the hands of laboratory technicians.

"Intense competition" in the highly technical industry manifests the real importance of relatively minor technical differences, the paper continued, "particularly in the physical properties" of fatty alcohol sulfates.

Only through research can chemists determine whether an ingredient can be used in a cosmetic product. The ultimate utilization of a product can depend entirely on a few degrees in solubility, or cloud point, or a very small percentage of light transmission.

Lauryl alcohol sulfate salts combine outstanding foaming and stability, mild odor and absence of skin irritation to make them superior for many cosmetic applications, such as shampoos, toothpaste and bubble bath.

"Availability of new lauryl alcohol sulfates salts will undoubtedly stimulate further development of their uses, alone, or in combination with sodium salts," the paper said.

Summarizing, "several new salts of lauryl sulfates have been prepared commercially . . . The physical properties cover a broad range of viscosity and cloud point, permitting the formulator a wider selection of properties to meet his specific requirements. Some of the salts have already found applica-

tions, generally as a replacement for the sodium salt."

Perfuming Detergents

N discussing "Some Aspects of Soap and Detergent Perfumery," E. D. Kilmer of the research and development division of Lever Bros. Co., New York, pointed out that a large proportion of the total volume of aromatics production is used for perfuming of soaps and detergents. Stock odors of soaps and synthetic detergents call for perfumes which "blend with and, if possible, utilize their enhancing action or they should provide maximum blanketing value where the nature of the odor demands it," Mr. E. D. Kilmer stated.

Although the choice of a fragrance is influence by a demand for compatability with or masking of base odors, the selection should also be guided by knowledge of the circumstance of the use of the product. Soaps and detergents should display clean odors. Laundry soaps and detergent powders appear more effective if sweet clean odors are retained on clothing. Perfumes for dishwashing compounds should also exhibit clean refreshing scents, vet possess such a low degree of retention that the user will not suspect their being held on tableware or cooking utensils.

Toilet soaps, because of their normally low level of base odor and manner of use may be perfumed from a wider choice of fragrances. This is particularly true of luxury products which assume in some degree the function of bath essences, imparting fragrance to bath and skin. Even here the acceptance of the perfume may benefit from a perceptible suggestion of cleanliness in the blend, Mr. Kilmer stated.

Factors governing the selection of a perfume Mr. Kilmer listed as suitability of fragrance type, compatibility with base and stock odors, stability in the medium, as well as availability and cost. In addition, the perfume should display a fragrance whose character is in harmony with the product function.

The perfume must also provide the maximum disguise for any undesired odors which exist in the unperfumed product. Finally, it must reany chemical or physical changes which during normal aging would significantly alter its fragrance "profile."

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Mr. Kilmer also pointed out that high volatility and reactivity between perfumery components are to be avoided for a constant odor "profile."

He cited as another important factor in perfumery stability, the resistance of the soap or detergent base toward rancidity development. Few odorant blends will remain unaffected while peroxide formation proceeds in the lipophilic portion of the detergent molecule. The resultant deterioration of the product odor is due to formation of malodorous chemicals from oxidation and destruction of sensitive osmophoric groups occurring in the perfume. Therefore, Mr. Kilmer pointed out, it is important that attention be directed toward adequte preservation of the base in order to minimize deterioration.

Aerosol Perfuming

PRELIMINARY findings in a study of perfuming materials for aerosol cosmetics were reported on by R. A. Foresman, an aerosol consultant, and Raoul Pantaleoni, Van Amerigen-Haebler, Inc., New

York, in a paper titled, "A Study of Odor Stability in Aerosol Perfuming." Thirty perfuming materials were rate as to their stability. The authors proposed that the work be continued since the variety of possible perfuming materials is so great.

In summarizing their results with aerosol shave creams, the authors point out that 28 out of the 30 perfumes retained their original odor in both pressurized and unpressurized packages during a period of storage at room temperatures. Many of the samples stored at elevated temperatures exhibited changes that were apparently caused more by the temperature than by the propellent since in practically every case both the pressurized and unpressurized samples exhibited the same type of deterioration.

Cosmetic Chemists Meet

The Society of Cosmetic Chemists heard a program of eight papers at its semi-annual technical meeting held at the Biltmore Hotel, New York, May 14.

The presentations included "Calculation of HLB Values of Nonionic Surfactants" by W. C. Griffin, Atlas Powder Co., Wilmington, Del. A method of classifying surfactants on the basis of their hydrophile-lipophile balance was discussed. A method of calculating HLB values for most non-

ionic surface active agents was described and calculated values for a number of products were indicated.

"Experiments on the Epidermis of Animals Which May be of Value to the Cosmetic Chemist" by Earl O. Butcher, New York University, Department of Anatomy, demonstrated the effect of several oils, fats and fatty acids on the epidermis by photographs of histological preparations. Extent of penetration as shown by fluorescence was described. Linoleic acid, for instance, has been found to penetrate the skin rapidly and is found in the capillaries 10 minutes after application. Lanolin is retained mainly in the outer strata of the epidermis. Radioactive iodinated linoleic acid is chiefly confined to the epidermis, radioautographs showed. Much of it is lost as the epidermal cells are shed. Association of a thin epidermis and a dry brittle corneum with low metabolism and fluid content of the skin was demonstrated. Methods of creating the best conditions for the skin were discussed.

A study of "Enzyme Inhibitors for Dentifrices" was presented by R. S. Manly, Tufts College Dental School, Boston.

Third SAACI Sales Clinic

The Third Chemical Sales Clinic, sponsored by the Salesmen's Association of the American Chemical Industry will be held Monday, October 11, in the Hotel Commodore, New York, according to Robert H. Kampschulte of Celanese Corp. of America, chairman of the SAACI Sales Clinic Committee.

Other members of this year's committee are: L. E. Johnson of Mathieson Chemical Corp., P. L. Richards of Enjay Co., M. M. Schlier of Washine-National Sands, Inc., P. F. Tinsley, Food Machinery & Chemical Corp.; advisory members, Paul B. Slawter, Jr., of Sterling Advertising Agency, Arthur Kavaler of Oil, Paint and Drug Reporter and Dwight Moody of The Journal of Commerce.

Speakers who contributed to the technical sessions of the Society of Cosmetic Chemists at the regular spring meeting held at the Hotel Biltmore, New York, May 14, are from left to right; front row — Walter J. Hamburger, Raymond Stevens, D. W. Brookfield; back row W. C. Griffin, Gerald Oster, R. S. Manly, Norman Rosenthal.



Soap and Detergent Product

Part II

ITHIN the last three years, there has been a decided trend in volume of product liability cases reaching the appellate courts which involve cosmetics and soaps. In some measure this may be attributed to a growing disinclination on the part of industry and insurance carriers to settle their claims which are made without regard to the apparent justification. Equally as likely may be an appreciation by plaintiff's lawyers that courts are tending to principles of absolute liability resulting in a far greater chance of success by a plaintiff in trial courts and appellate tribunals.

Hair dyes and permanent wave preparations have been involved in six of these cases.

Let's first look at the hair dve cases.

In a New York case the patron of a beauty parlor suffered a scalp and skin condition after repeated applications of a hair dye on one occasion. Her physician diagnosed her condition as an allergic reaction caused by the hair dye. She then successfully sued the operator for negligence. The operator in turn sued the wholesaler, distributor and manufacturer of the dye and the jury returned a verdict in favor of the operator for the amount which she had paid to the patron. The court, in sustaining the verdict, noted that the trial court had adequately instructed the jury that there was no liability unless the operator fully complied with the manufacturer's directions for use.25 It is not clear from the opinion in the case as to whether there was any direct proof that the dye contained a poisonous ingredient or the manner in which the allergy factor was treated.

In a case decided on appeal in 1953, the manufacturer of a

hair dye was held liable for injury to a user for breach of warranty.26 The plaintiff had used the particular product before without any adverse effect, applying a patch test on these occasions in accordance with the book of instructions which came with the product. On the occasion in question in litigation no patch test was made. The crucial question was whether she should have used the patch test when the product was used for the retouching purpose as well as for original application, and thus avoiding any allergic reaction. The trial court held that the plaintiff was justified in not doing this, construing as a matter of law that the instructions given by the manufacturer were ambiguous. This was affirmed on appeal, the court stating "if a patch test was to be required before a retouching, it should have been a simple matter to so state in clear language".

The defendant had also raised the contention that a manufacturer of a product of this kind was not liable for injuries resulting to one who is allergic but the court brushed this aside with some dubious reference to the "more liberal rule" in Minnesota that "proof of the harmful ingredients in the particular bottle . . . causing the harm is not required". Since the manufacturer had prescribed a patch test for the basic purpose of reducing the likelihood of use by allergic persons, it is reasonable to assume that he had knowledge of the allergy potential of the product at least in so far as original applications were involved. The crucial question under these circumstances would seem to be whether this knowledge should have placed him on notice of an allergy factor with respect to retouching operations.

Without any opinion to il-

luminate the facts, a New York court in 1953 sustained a judgment against a beauty supplier and manufacturer for injury to a patron in a beauty shop resulting from the use of a hair straightening preparation.²⁷ This culminated a series of actions in which the patron sued and recovered from the beauty shop operator and then the latter sued its supplier for negligence and breach of warranty.

A home permanent wave preparation caused the loss of hair to a young lady following application and she brought suit against the chain store from which she purchased it and the manufacturer who placed it on the market. In holding the manufacturer liable for negligence the court relied on the testimony of a dermatologist that the injury resulted from an excess of an alkali in the preparation.28 From this the court inferred that the excessive alkali was due to negligence in the manufacturing process. The chain store, which was sued on the theory of breach of implied warranty, contended that a warranty should not attach to the mere sale of a cosmetic in its original and sealed package. The court in a decision of first impression in Virginia stated that "a warranty of wholesomeness . . . (is) implicit in every retail sale of cosmetics".

In another case, a beauty parlor operator developed a dermatitis condition as a result of handling a permanent wave lotion and fixative in the course of her work.²⁹ The lotion contained ammonium thioglycolate and the fixa-

By John D. Conner and Sellers & Conner

Liability

tive potassium bromate-ordinarily harmless ingredients. The operator happened to be allergic to the combination of these ingredients. Suit was brought against the distributor for negligence in failing to warn of possible irritation resulting from the use of these materials. But the court, noting that the materials were harmless to the normal user, held for the distributor on the ground that the allergenic index of these products was too minimal to constitute a foreseeable risk which should have been provided for. In the words of the court "we are sympathetic with appellant and her misfortune, but cannot require the merchant to assume the role of absolute insurer against physiological idiosyncrasy. To do so also would invest the elusive ordinary prudent man with a quality of foreseeability that would take him out of character completely".

A retail drug store was held liable for injury resulting from a bleaching cream which it sold, the court brushing aside the contention that a retail seller of an article of merchandise in common use is not liable to a customer for injury caused by some latent defect in the article in the absence of negligence or an express warranty.³⁰

Reminiscent of one of the first reported appellate cases is Krupar v. Procter & Gamble Co. decided in 1953.³¹ Initially, Procter & Gamble was held liable for injury sustained by a purchaser of a bar of bath soap which had a piece of wire embedded in it. Recovery was based on both negli-

gence and the breach of the implied warranty of suitability. The court in sustaining the cause of action based on negligence relied on the rule of res ispa loquitur, i.e., the mere fact that the wire was present in the packaged soap gave rise to the inference that it was caused by negligence during the manufacturing process. A further point of interest was the holding by the court that an ultimate consumer may sue directly a manufacturer for breach of an implied warranty, a decision which is gradually gaining a following but is yet a minority view. This decision has recently been reversed on appeal to the Supreme Court of Ohio.

Four detergent decisions conclude this summary of cosmetic and soap decisions during the last fifty years.

Decisions on Detergents

ONE of these was an action against the manufacturer of a dishwashing detergent for injury to the hands of a restaurant owner who used the product for dishwashing purposes.32 No showing was made that the product contained any substance harmful to the skin of a normal person. The manufacturer defended on the ground that privity between the parties was lacking since the product was purchased through a middleman and that the injury was due to an allergy. The court held for the manufacturer because there was no proof that the detergent contained a harmful ingredient and, therefore, it was speculative whether the detergent or an allergy caused the injury. It is significant to note, however, that the court ruled that privity between the parties was not necessary since the product was labeled "kind to hands" and this constituted an express warranty running from the manufacturer to the ultimate consumer.

In another case, the consumer brought an action against the manufacturer contending that the use of its detergent resulted in the loss of sight of both her eyes.³³

The testimony indicated that the plaintiff, a nurse, got some of the detergent into her eyes by rubbing her eyes while she was engaged in washing surgical instruments with the detergent. The trial court instructed a verdict for the manufacturer of the detergent. The United States Court of Appeals for the Fifth Circuit has just reversed the trial court by holding that the case should have been submitted to the jury.

Two other 1953 decisions involving injury from the use of detergents may be noted primarily because of their significance on the issue whether a manufacturer is responsible to an ultimate consumer on an implied warranty of safety. In one, an action by a user for breach of warranty was dismissed against a manufacturer and distributor for lack of privity 34; in another action, the plaintiff was allowed to amend a complaint charging breach of warranty to a charge of negligence in deference to the rule 32

Trends in Liability

T HIS review of the past fifty years underscores the fact that during this period the courts have evolved a position much more sympathetic to the claims of consumers of cosmetics and soaps. This trend is attributed in part to the breakdown or dilution of legal concepts which are of interest primarily to the attorney-such concepts as lack of privity. However, to an even larger extent, this trend has been highlighted by the development of new technical products which in turn has given rise to new substantive legal problems with which the manufacturer, as well as his attorney, must be concerned.

Liability to Allergics

ONE of these contemporary problems is the extent to which the manufacturer of a cosmetic or soap is liable for injury to an allergic consumer. This question is one of relatively recent origin. Courts have been somewhat guilty in their treatment of this sub-

George A. Burroughs
Washington, D. C.

ject. Some have held flatly that the manufacturer has no responsibility to an allergic consumer; others have taken a directly opposite position. As a result, litigants have been confused as to their rights and the legal profession has been able to offer little by way of confident advice.

The nature of many of the cases which have been before the courts and argued as allergy cases has added to the confusion. In many of these, the offending product is shown to be harmful to even normal persons—the allergy of the consumer being merely a happenstance or aggravating factor. These are not true allergy cases. They no more involve the law of allergy than would a failure to observe a stop sign at intersection A be the legal cause of an accident at intersection B two miles away.

The real allergy issue is presented in the situation where a product which is harmless to the average consumer causes injury because of an allergy of a particular consumer. In such a case, the courts are hesitant to impose liability if the allergy is a rare one and if harmlessness of the questioned product to average persons is convincingly established. Such a rule, of course, poses many problems of definition—what is a rare allergy?—who is an average person?

The most reliable gauge which is available for answering these questions is the decisions of the courts themselves. It has been decided, for example, that a product which potentially affects 5% of the consumers exposed to it has a sufficiently high allergenic index to warrant the imposition of liability. And, conversely, liability was not imposed in a case where the product involved had an allergenic index under 1%. Liability has been imposed where the product was harmful to "some" persons but not where the product was harmful to "only a few" persons.

These decisions, while not definitive, do indicate judicial interest in the extent to which the allergy involved occurs. If the allergy is one which is common enough to warrant a finding that the manufacturer should have known of its existence and prevalence, adequate grounds for liability are generally found. On the other hand, liability for injuries caused to an allergic where the allergy is "de minimis" is rarely imposed. The reasons are grounded in fundamental principles of fair play.

A high allergenic index does not necessarily mean that the product liability risk is too prohibitive to cause the withdrawal of a product from the market. In such a case, the answer lies in suitable precautionary labeling which puts the consumer on notice of the allergy potential and thereby shifts the risk of use upon the consumer. This is the common device in the marketing of certain hair dyes where patch tests are prescribed to minimize use by an allergic consumer.

Migr's. Knowledge of Risk

It will be recalled that in the first appellate decision discussed in this article a soap manufacturer was held not responsible for damage attributable to his product on the ground that he had no knowledge that it was defective. Numerous other cases in this field applied this narrow principle. But the principle of these old cases has been completely changed.

Today, it makes little difference whether the harmful quality of a product is known to the manufacturer. In a cause of action premised on negligence, the law measures the responsibility of the manufacturer in terms of what he should have known about his product as a reasonable businessman. If the cause of action is premised upon breach of warranty, knowledge is a wholly irrelevant factor.

This evolution in the judical process has resulted in a significant shift in the responsibility of the manufacturer. It means that the manufacturer must place substantial emphasis upon research and premarket testing. For with the demand that the manufacturer must know

the composition and quality of his product inures the corollary obligation to go beyond his personal knowledge and experience if this is necessary to acquire a full knowledge of the risk and performance potential. The cosmetic and soap manufacturer is expected to conduct or have caused research on his products before marketing to assure that he knows of the harm potentially connected with their use. Failure to do this is an invitation to product liability claims and litigation. The results of research to the extent that a risk is presented must be translated into precautions brought to the attention of the public which will be exposed to the risk. This does not mean that the manufacturer must warn against every conceivable risk which usage may involve-even table salt is harmful when consumed in sufficient quantities; but it does mean disclosure of those risks which are presented when the product is used for the purpose for which sold and which the ordinary consumer would not reasonably discover.

The manufacturer who meets this responsibility will not be completely free from product liability claims; but he will be in a sound position to defend those which do arise

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Toxicology of Surfactants

By Dr. Louis C. Barail

High pH of soap main cause of primary irritation and cutaneous sensitization

HE main cause of primary irritation and cutaneous sensitization in soaps is a high pH, which may result from normal or excessive amounts of free alkali. This was pointed out in the article on toxicity of soaps, which appeared in the April issue. All soaps give a positive reaction when injected intradermally at 0.5 percent concentrations. Even the purest soaps, such as an unperfumed olive oil castile soap, cause a ++ reaction when injected intradermally. Since castile soap is not irritating to the skin under normal conditions of use, any soap or detergent which gives a ++ reaction may be considered safe for use.

There are a great many different synthetic detergents and surface active agents. These fall into one of three main categories: anionic, non-ionic and cationic.

In each of the three groups there are compounds the toxicological, sensitizing and irritating properties of which range from nil to extreme. Some surface active agents that are toxic internally and externally have such commercially interesting properties that they are used with special precautions,

This variation of toxicological properties among surface active agents is found in comparing soaps and synthetics. For example, some non-ionics are less toxic than good soaps, while others are more toxic than the most irritating industrial soaps. Certain non-ionics and cationics are very mild and give a ± reaction to the animal intradermal

single injection method; others give a +++ or ++++ reaction and are not only primary irritants or cutaenous sensitizers, but also possess dangerous caustic properties.

Since it is virtually impossible to classify surface active agents into groups the constitution of which would be based both on their chemical identity and their degree of toxicity, the proof of toxicity is found in the results of toxicological investigations conducted on animals in the laboratory and on human beings in the field. Such investigations should be very comprehensive because of the numerous applications of surface active agents.

It is obvious that they should be tested in their pure form at normal concentrations of use. They should also be investigated in combination with other chemicals, solvents, essential oils, fillers and other detergents because these added chemicals very often react on these surface active agents to either increase or decrease their toxicity. Such formulae should not be used on the assumption that their toxicity is the same as that of the pure product itself. Such an assumption could cause serious accidents. Greater care should be given to liquid surface active agents than to those in solid or powdered form because children are more apt to drink liquid than chew on a cake of soap or eat powders or crystals. Products containing surface active agents have caused serious accidents among children in the past.

Surface active agents gener-

ally have a pH that is much closer to neutral than soaps. Some surfactants are slightly alkaline; others are slightly acid. A few cationics have a pH far below neutral. They act on the skin in various ways. Some belong to the first group of the National Safety Council classification: they are keratin solvents and skin oil removers. Most anionic and non-ionic detergents act in that manner. Cationic detergents being acid are desiccating agents; they remove the moisture from the skin. Others are oxidizers. Although the cationics act just the opposite of soap and anionics, the end result of their action on the skin is very similar to that caused by high pH detergents. Prolonged action or frequent contacts of a cationic with the skin produce crevices and lesions of the skin which may cause permanent scars if prophylactic and curative measures are not taken promptly. Some scouring agents used in the textile and leather industries are highly caustic and should not be handled without rubber gloves. Furthermore, their toxicity increases as the temperature of their solution rises. Solutions of cationics often used in scouring plants have temperatures which are only a few degrees below the boiling point and thus are extremely dangerous.

There is an isoelectric theory of the action of detergents on the surface of the skin. The isoelectric point of skin keratin has been found to be between 3.5 and 5.5. According to this theory, the determination of the isoelectric point indicates

the pH range of the detergent. It is known that the active portion of anionic detergents is charged with negative ions, whereas that of cationic detergents is charged with positive ions. If this theory is correct, the selected detergent should have the same charge as that of the skin because if its charge is the opposite of that of the skin, the detergent would be inactivated. Therefore, if the detergent is to be used above the isoelectric point of the skin keratin, it should be an anionic. On the other hand, if the detergent is to he used below the isoelectric point of skin keratin, the detergent should be a cationic. This theory has not been verified experimentally, but it seems to explain why soaps are more efficient under certain conditions than under others and why the very acid surface active agents are less efficient and more toxic to the skin under normal conditions of

Testing Internal Toxicity

HE internal toxicity of various substances is evaluated in a great many ways. The best way to ascertain quickly the comparative toxicity of a product is to determine its minimum lethal dose. The minimum lethal dose, MLD or LD 100 is the smallest dose of a product which will kill all the animals used in the test. LD 50 is the smallest dose which will kill half of the animals used in the test. Usually, the determination of the MLD or of the LD 50 is made on three species of animals and the number of animals should not be less than 6. It is preferable to use at least 10 animals of each species. The species of animals should be selected as follows: two rodents and one nonrodent. Among the rodents, the best are mice and rats, but hamsters, cavies and rabbits can be used. The choice non-rodent animals are dogs and monkeys. There are three methods for the determination of the internal toxicity: 1) the intravenous injection; 2) the intraperitoneal injection; 3) the oral feeding.

1) Intravenous injection: The product to be investigated is

injected in various amounts directly into a vein of the test animals. The purpose of the first series of injections is to determine as clearly as possible the lethal range of a small dose of the product under test. When the range is established, a group of 10 or more animals of about the same weight is selected and injected. The experiment is continued until either all or half of the animals die, depending on whether the method is MLD or LD 50.

2) Intraperitoneal injection: This method consists in injecting a solution of the material to be tested in the peritoneal cavity. The procedure for determining toxicity range is the same as for the intravenous injection. The absorption of the test product in the blood stream after intraperitoneal injection, of course, is much slower than when the material is injected directly into the blood stream so that the minimum lethal dose by intraperitoneal injection is always greater than that obtained by intravenous injection, but it is smaller than that obtained by oral feeding.

3) Oral feeding: The method consists in feeding three different species of animals, the dosages increasing with each animal until death occurs. If the animal dies soon after feeding, the dosage given to the other test animals is decreased two or three steps at a time until they can survive the initial dose. If the animal dies after a longer lapse of time (one week), the dosage is decreased a step at a time until the other animals can survive it. If an animal survives but shows some pathological effect, the dosage is increased one or two steps at a time until the animal dies.

When the minimum lethal dose is thus being obtained, several animals of similar weight are selected and given a dosage equivalent to the minimum dosage previously established. Oral toxicity determinations are always made by forced feeding which is the only way to control the amount which actually reaches the digestive track. For quite a few products, including

some surface active agents, the average minimum lethal dose obtained on three species of animals is comparable to that of men. For many others, it is not so, and the figures obtained on animals give only an indication of the accute oral toxicity.

Oral Toxicity Ratings

T ABLES classifying poisons by categories have been published by toxicologists throughout the world. We believe the following table to be the most logical as it is based on the experience of a great many toxicologists and on the importance of the pathological disturbances which characterize the various levels of toxicity:

No toxicity: above 25 milligrams per gram or 25 grams per kilogram.

milligrams per gram or between 25 and 10 milligrams per gram or between 25 and 10 grams per kilogram.

Median toxicity: from 10 to 2 milligrams per gram, or from 10 to two grams per kilogram.

High toxicity: from two to 0.1 milligrams per gram, or from two to 0.1 grams per kilogram.

Very high toxicity: Below 0.1 milligrams per gram, or below 0.1 grams per kilogram.

Long Duration Feeding

THE next step in a toxicological investigation consists in feeding groups of three species of animals for various periods of time. This can be done for a few weeks, three months, six months, half of the life time or the complete life time of the animals. The animals are divided into several groups and selected for their age and weight. The average of all weights should be comparable in all groups.

One group is fed on ordinary basic diet, while another group is fed the same diet to which a certain amount of the material to be tested has been added. Such toxicological studies are often conducted at several levels. Therefore, a third group is fed the same basic diet plus the product to be tested at a concentration slightly higher than

that of the second group. The fourth group is fed the material at still a higher concentration than that of the third group. The material can be incorporated either in a solid or a liquid diet, which is usually water, unless the animals are fed the toxic product in liquid form. Special precautions are taken so that the amount of solid and liquid food consumed is easily measurable and that there is no waste. This is obtained by keeping only one animal per cage and using scatterproof feeding cups and drinking tubes, to the exclusion of any other feeding device. Both solid and liquid foods are carefully weighed or measured every day and in some cases, the feces and urine are collected, weighed and analyzed.

The animals are weighed at the end of each week and their weight carefully recorded. They are observed daily for any pathological manifestation, loss of appetite, macroscopic changes in the feces and any symptoms which indicate an impairment in the health of the animals. If an animal dies, an autopsy should be immediately performed to determine the cause of death. This is particularly important when life time feeding studies are made, as several animals in the test are bound to die from old age. The autopsy should establish whether or not death was caused by the prolonged ingestion of the material under investigation.

Internal Toxicity

A great many authors, including ourselves, have determined the acute oral toxicity, as MLD and LD 50 in mice and rats, of a great

many surface active agents used in various fields of industry or compounded with other ingredients to make detergent solutions, shampoos, and other types of cosmetics. The studies were always accompanied by investigations of the external toxicity, using the rabbit eye irritation test, the animal intradermal single injection method on rabbits, and the prophetic patch test on human subjects. It was found that the results of these four studies were very similar and that contrary to what happens sometimes, most of the detergents which were found to be toxic orally, were irritating to the conjunctiva and to the skin of rabbits and humans. In a few cases, the determination of the MLD or LD 50 was followed by prolonged tests on at least two species of animals. The determination of the LD 50 in mice and rats brought results which enable users of synthetic detergents to select a product which is less toxic but performs as well as others having a higher degree of toxicity. It is remarkable that more detergents are found in the non toxic group and in the median toxicity group than in the low toxicity group (10 to 25 grams per kilogram) and the high toxicity group (less than two grams per kilogram).

Obviously it is impossible to enumerate completely the oral toxicities of all surface active agents on the market, for reasons of space and because new synthetic detergents are discovered almost every week

To mention only a few, we find in the non toxic group the Nopalcols 40, 60 and 6L and the

Tweens 20 and 80. In the toxic group we find Igepon, Igepal CA, Tergitol 08, Duponol C, Emulsept, Aresket 300, Areskap 100 and Aresklene 400. At the bottom of the group are Santomerse D and Santomerse 3 with a LD 50 of 2.0. In the high toxicity group, Roccal and Zephiran lead with a LD 50 of 0.34 followed by Emcol 888 with a LD 50 of 0.47 and CDEA Br with a LD 50 of 0.60, Tergitol 4 and 7 with a LD 50 of 1.3 and Nacconol NRSF with a LD 50 of 1.4 gram/kilogram.

Eye Irritation Test

HEN tested by instillation in rabbits' eye at the normal oncentration of use recommended by the manufacturers, the compounds found in the low oral toxicity group showed no irritation whatsoever on the conjunctiva of all rabbits tested. In the toxic group, the values of eye irritation were between two and 15 and corresponded to the LD 50 between 10 and 2.

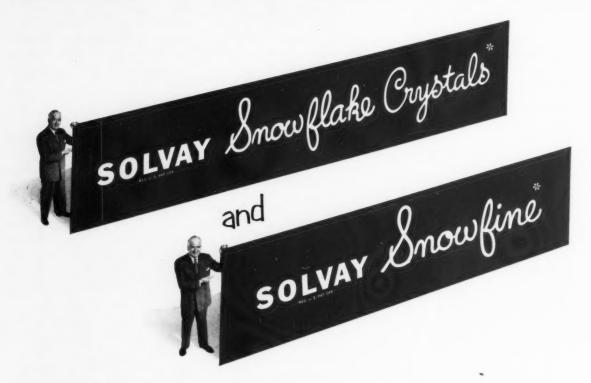
Animal intradermal single injection. The intradermal single injection method was used prior to prophetic patch tests on human subjects. Here again the products in the non toxic group showed a negative reaction. The products in the low toxicity group showed a \pm or a + reaction. The toxic group produced a ++ reaction, and in the high toxicity group, three proprietary quaternary products showed a ++++ reaction, and one quaternary a +++ reaction.

Patch tests on human subjects: Because of these results, the products in the toxic and highly toxic group were patch tested at concentrations 1/10 of normal use concentration. The non-toxic and low toxicity groups were tested at the normal concentration of use. None of the non toxic group detergents showed any reaction as primary irritants nor cutaneous sensitizers at normal concentrations of use.

Only one detergent in the low toxicity group showed a ± re(Turn to Page 109)

Proof of toxicity can best be determined by use concentration on animals in the laboratory, on human beings in the field.

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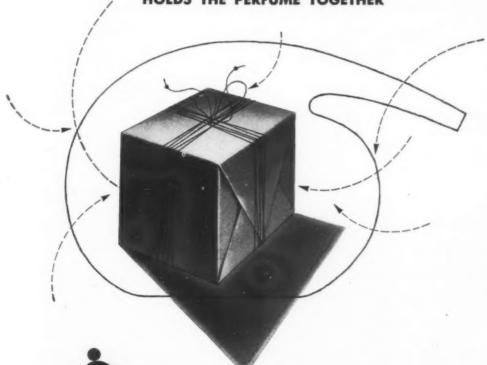
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- * Silicate of soda
- * Silicate of potash
- * Trisodium phosphate
- * Metallic stearates
- * Synthetic detergents
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News

Pacifico Joins Alcolac

Carl Pacifico has joined American Alcolac Corp., Baltimore, as director of market development, it was announced late last month by



Carl Pacifico

John Andre, executive vice president and director of sales. Previous to his recent appointment Mr. Pacifico was director of development at Wyandotte Chemicals Corp., Wyandotte, Mich. A graduate of Drexel Institute of Technology, he served with the Air Force during World War II, then joined Publicker Industries, Inc., Philadelphia, and became associated with Wyandotte in 1949.

Shell Revamps Marketing

George W. Huldrum, Jr., has been appointed general sales manager of Shell Chemical Corp., New York, it was announced recently by L. V. Steck, marketing vice-president. The appointment, which became effective June 4, is part of a reorganization program which dissolves Shell's eastern and western divisions as such. The district offices now report to the single sales management group in New York, J. M. Selden, eastern division manager, becomes assistant to the vice president, and W. E. Keegon is now sales manager reporting to Mr.

Huldrum, who will supervise management of sales groups and chemical products managers and will report to the vice-president.

Indian Soap Output

Factories in India produced soap valued at \$37,800,000 in 1953, according to a recently published report.

Corson on Radio Publicity

Barney Corson, advertising manager, Tidy House Products Co., Shenandoah, Ia., was one of six advertising executives of leading companies who spoke during the Broadcast Advertising Bureau program last month at the 1954 NAR TB convention in Chicago. The speakers explained how and why their firms give radio a major share of their advertising budget.

Mrs. Tester To Colgate

Colgate-Palmolive Co., Jersey City, N. J., announced last month the appointment of Mrs. Marjorie H. Tester as home economist in the soap and detergents division of the department of research and development. A graduate of Adelphi College and New York University, Mrs. Tester was previously associated with Proctor Electric Co., New York.

Mrs. M. J. Tester



Bonham Heads Bourjois

Lewis F. Bonham was elected president, general manager, and director of Bourjois, Inc. and Barbara Gould, Inc., New York, it was



Lewis F. Bonham

announced recently. He resigned as president of Alfred D. McKelvy Co. and as a director of Prince Matchabelli, Inc., New York, to assume this new appointment. The election of Richard Lockman as vice president in charge of advertising and sales promotion for Bourjois and Barbara Gould was announced at the same time.

Louis Horvath Dies

Louis Horvath, an employee of Davies-Young Soap Co., Dayton, O., for the past 22 years, died May 19. A native of Yugoslavia, he had resided in Dayton for 40 years. He was 74 years old.

Phoenix Buys Soap Div.

Phoenix Oil Co., Cleveland, has bought the soap division of Stevens Grease and Oil Co., also of Cleveland, it was announced recently by M. J. Murphy, Jr., Phoenix vice president. Key personnel, formulae and manufacturing processes remain unchanged and Walter De Muth continues to supervise sales in the soap division.

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- high purity Here is the "anhydrous" with a true metasilicate ratio. The percentage of soluble silica (SiO_2) is in correct ratio to alkali (Na_2O) . Metso Anhydrous has $higher\ SiO_2$ —low CO_2 content.
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Valko Heads Onyx Research

Appointment of Emery I. Valko as director of research was announced recently by Onyx Oil



Emery I. Valko

& Chemical Co., Jersey City, N. J. Dr. Valko had previously been with Onyx from 1939 to 1946. Later he was with E. F. Drew & Co., Boonton, N. J., and in recent years he was associated with the Polytechnic Institute of Brooklyn as a project leader. He also worked as an independent consultant in the textile and allied fields. Prior to his first association with Onyx, Dr. Valko worked in the research department of I. G. Farbenindustrie in Germany.

Fuller to Colgate

The appointment of George H. Fuller as head of the perfumery and essential oils division of Colgate-Palmolive Co., Jersey City,

George H. Fuller



N. J., was announced late last month by Thomas H. Vaughn, vice president in charge of research and development. Mr. Fuller comes to Colgate from Harriet Hubbard Ayer, Inc., New York, where he was plant manager. In his new position he is responsible for the development of new flavors and odors for toilet articles, soap, and detergents.

The products of Colgate International's 28 overseas branches and subsidiaries present many problems arising from localized preferences, which will claim Mr. Fuller's special attention. Research into new methods of materials analysis and quality control of perfumes and flavors will be among his responsibilities. Colgate's perfumery division has been expanded and includes a new chemical laboratory with a modern instrument section.

A graduate of Massachusetts Institute of Technology, Mr. Fuller joined Ayer in 1926 as a manufacturing division head. Before becoming plant manager, he served as chief chemist and perfumer.

Straka to Chesebrough

Jerome A. Straka, former executive vice president of Colgate-Palmolive Co., Jersey City, N. J., has been elected director and executive vice president of Chesebrough Manufacturing Co., New York, it was announced last month by Arthur B. Richardson, Chesebrough president. Mr. Straka, a graduate of the University of Wisconsin, started his business career with Palmolive Co., in Milwaukee in 1924.

"Udet" Export Agents

Universal Detergents, Inc., Long Beach, Calif., recently appointed Philipp Brothers Chemicals, Inc., New York, as exclusive export sales agents. Philipp Brothers will handle distribution of "Udet F" surfactants and agricultural chemicals in all countries outside the United States. In addition it will continue as distributor of these products in the eastern United States.

Polacek in New Post

Michigan Alkali Division of Wyandotte Chemicals Corp., Wyandotte, Mich., has named Robert J.



Robert J. Polacek

Polacek technical assistant to the manager, new products, in the organic chemicals department, it was announced recently. A graduate of St. Mary's College of Winona, Minn., and the University of Notre Dame, Mr. Polacek joined Wyandotte's development department in 1951, where he helped to develop applications for the "Pluronics" and other organic compounds. In his new position he is concerned with the transfer of new products from research and development into industry.

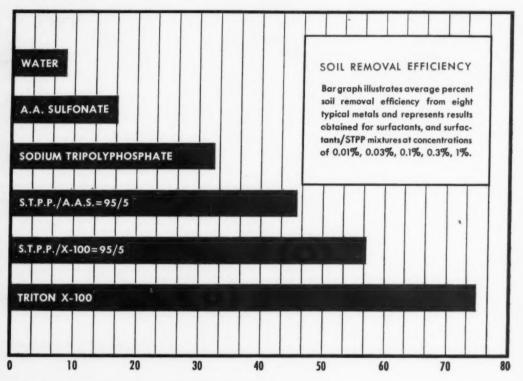
Chemists' Club Elects

At the annual meeting of the Chemists' Club, New York, held on May 5, 1954, the following officers

Ira Vandewater



ALUMINUM, ZINC, IRON, STEEL, BRASS, COPPER AND SILVER... TRITON X-100 CLEANS THEM ALL



Newest data obtained by the Rohm & Haas Dynamic Detergency Test confirm that the cleaning efficiency of a typical low cost cleaner is improved appreciably by Triton X-100. The bar graph shows that on eight different metallic surfaces the effectiveness of sodium tripolyphosphate is increased 73% by the addition of 5% of Triton X-100. However, an equivalent amount of an alkyl aryl sulfonate added to sodium tripolyphosphate increases cleaning efficiency by only 39%. Without alkaline builders Triton X-100 is over eight times better than water; under the same conditions the alkyl aryl sulfonate is only twice as effective a cleaner as water. Complete figures on these results—showing relative effectiveness of detergents in soil removal and prevention of soil redeposition on hard surfaces—will be sent upon your request.

Clip this information for your reference files. If you would like technical assistance on the uses of TRITON surfactants write us.

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were elected: Ira Vandewater, R. W. Greeff Co., president: Lee V. Stack, Shell Chemical Corp., vice president: L. E. Erlandson, Union Carbide & Carbon Corp., treasurer: Llovd Van Doren, Watson, Johnson, Levinworth and Blair, secretary; B. L. Clarke, Merck & Co., suburban vice president; J. H. Rushton, Illinois Institute of Technology, Chicago, non-resident vice president: and William Wishnick, Witco, Inc., junior vice president. Trustees elected for the three year term 1954-57 include Lawrence Flett, National Aniline Division, Allied Chemical & Dve Corp.; James J. Mahon, James I. McMahon, Inc.; and Paul Slawter, Sterling Advertising, Inc. -*-

Elects D'Aigremont

Jacques D'Aigremont has been elected executive vice president of Roure-Dupont, Inc., New York, The announcement was made last month by Louis Amic, the firm's president. He succeeds Pierre Coutin who resigned to join Ph. Chaleyer.

New P&G Offices

Construction of a new office building in Cincinnati is planned by Procter & Gamble Co., it was announced recently. Work is scheduled to begin early next year. The building will house more than 1,500 employees and will cost more than \$6,000,000, according to unofficial estimates.

Charles Berger to Fleuroma

Charles Berger has joined the executive staff of Fleuroma, Inc., New York, and will be in charge of a new perfume laboratory now being established, it was announced recently. Mr. Berger had been chief perfumer of Felton Chemical Co., New York, for the past fifteen years.

Top right is architect's drawing of proposed synthetic silicates plant of Johns-Manville Corp., New York, at Lompoc Calif. Lower photo is of the pilot plant at Johns-Manville research center in Manville, N. J., which produces calcium and magnesium silicates on a semi-commercial scale.

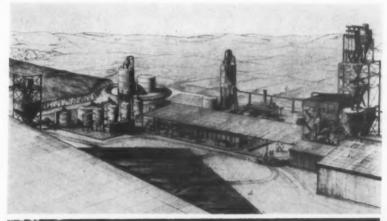
Synthetic Silicate Plant

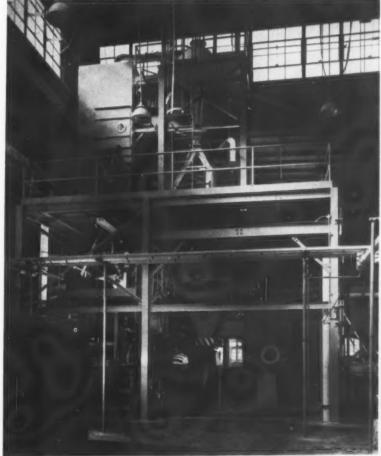
Johns-Manville Corp., New York, is building a new plant for the manufacture of synthetic silicates at Lompoc, Calif., it was announced recently by A. R. Fisher, the firm's president. Construction will be completed within 18 months to two years.

Synthetic silicates will be

made directly from crude diatomite by reaction with lime or magnesia under pressure. Used as absorbents, in insecticides, the synthetic silicates find application in cleaners, in the dry cleaning industry.

Johns - Manville owns and operates at Lompoc what is claimed to be the world's largest and purest known deposit of diatomite.







Because of the relatively large surface area exposed in carbon paper, the development of rancidity in the fatty component is not unusual. Such was the case with this well-known manufacturer. But, when Emersol 233 L.L.Elaine (Low-Linoleic) was substituted for the ordinary oleic acid in his formulation, odor complaints were reduced appreciably.

Whatever product you make, carbon paper or entirely unrelated products, the outstanding resistance to rancidity, color stability and oxidation stability of Emersol Oleic Acids can make your product better, stay better longer. This greater consumer appeal will make them readily accepted ...easier to sell. Since they cost no more than competitive grades, next time...everytime...it will pay you to buy Emersol Elaines.

Do you use a Double-Distilled Oleic Acid?

Then you will be interested in this data showing the outstanding color stability of Emersol 221 as compared to competitive grades. The extra value of Emersol 233 is shown also.

To illustrate this fact in terms of end-product quality, actual propyl oleate esters were prepared under exacting conditions using a strong acid catalyst. The following colors were obtained after neutralization of the catalyst and filtering.

R
R
R
lark
R



Fatty Acids & Derivatives
Plastolein Plasticizers
Twitchell Oils, Emulsifiers

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Export: 5035 RCA Bldg., New York 20, New York

SOAP and CHEMICAL SPECIALTIES.

Coutin to Chaleyer

Pierre J. Coutin has resigned his position as vice president in charge of sales with Roure-Dupont,



Pierre J. Coutin

Inc., New York, to join Ph. Chaleyer & Co., New York, as executive vice president and director, it was announced recently by Philip Chaleyer, president of the essential oil firm. Mr. Coutin's new appointment became effective June 1.

Wyandotte Ships by Lake

Wyandotte Chemicals Corp., Wyandotte, Mich., recently announced the organization of its own system of bulk transportation for chemicals via the Great Lakes. A fleet of three converted iron ore ships with a total capacity of 22,500 tons will be operated by Wyandotte Transportation Co., a subsidiary, in a shuttle service between Wyandotte and Chicago. Under the new arrangement, one carrier will be loading at Wyandotte while another is towed by a tug to a reloading point south of Chicago. Simultaneously a third carrier is docked in Chicago with its self-unloading equipment transferring cargoes to barges for shipment south over the Illinois waterway. The three vessels thus serve as floating warehouses, similar to a four unit highway fleet of three trailers and one tractor. Each carrier will have a capacity of 6,000 tons of soda ash, 1,000 tons of caustic soda and 500 tons of miscellaneous bulk chemicals. Full-scale

operation of this service is expected to begin during the present shipping season and to be expanded during successive seasons, according to Bert Cremers, vice president of Michigan Alkali Division.

AOCS Hears Kalustian

Peter Kalustian, general production manager of E. F. Drew & Co., New York, was the featured speaker at the June 1 meeting of the Northeast section, American Oil Chemists' Society, held at the Building Trade Employers Association, New York City. His subject was the replacement of cocoa butter by processed vegetable oils in the confections industry. Those present participated in a taste panel.

Mr. Kalustian is one of the founders of the Northeast Oil Chemists' Society and its first president.

Transferring cargo at Chicago Terminal—The deck cranes and specially designed clam shell buckets which close tightly, permit easy transfer of soda ash and other materials. Here we see the soda ash being transferred from the Wyandotte carrier to a river barge for transshipment down rivers and canals to the consuming industries.

Morone Joins Rhodia

P. J. Morone, formerly associated with Magnus, Mabee & Reynard, Inc., New York, has



P. J. Morone

joined Rhodia, Inc., New York, as a member of the sales staff for aromatic chemicals and specialties, it was announced recently. A graduate of Rutgers University, Mr. Morone was successively employed by E. R. Squibb & Sons as a professional service representative, by McKesson & Robbins as a sales specialist, and by MM&R.



RENEX 35 a free-flowing pale yellow powder, made by the concretion of ured and Renex 30. Try these versatile Renex® detergent HOME LAUNDRY COMPOUNDS DISHWASHING COMPOUNDS concentrates METAL CLEANERS DETERGENT SANITIZERS in your cleaning DAIRY CLEANERS WOOL SCOURING FLOOR AND WALL CLEANERS compound DE-INKING COMPOUNDS FELT CLEANERS WOOL CARBONIZING AGENT DYE ASSISTANT

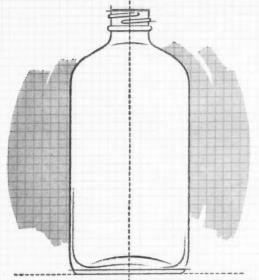
These two non-ionic detergent concentrates, a liquid and a solid, offer characteristics valuable in a wide range of cleaning formulas. They have high stability to acids and alkalis . . . high foaming index . . . excellent detergency, wetting, penetrating and emulsifying action. Used in sanitizers, dairy cleaners, dishwashing compounds and metal cleaners. The paper industry uses them for rewetting, de-inking and felt cleaning. The textile industry finds them valuable for dye leveling, wool processing, soaping-off operations and rewetting.

Both the liquid and powder types are compatible with soaps, alkaline builders, solvents and germicides. Write for samples and data on these and other Renex products.

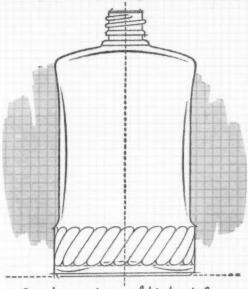


WILMINGTON 99, DELAWARE offices in principal cities ATLAS POWDER COMPANY, CANADA, LTD. BRANTFORD, CANADA

Which one is the SALESpackage?



Is it the package where product protection is the dominant consideration?



Or the package of high style and distinctiveness?



Or the package with advantages for the retailer, or in actual consumption?

The answer has to be: ALL of them

But few product problems fall into one exclusive category.

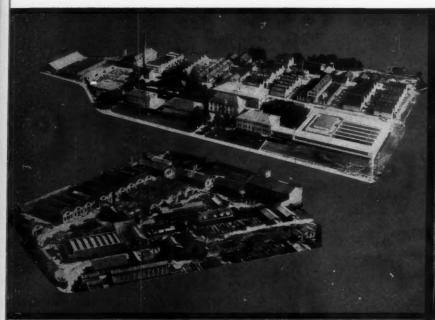
The Owens-Illinois method of systematic exposure of packaging problems to the engineer, the designer and the marketer yields an impressive consistency in producing top packaging values.

DURAGLAS CONTAINERS
AN (1) PRODUCT

OWENS-ILLINOIS

GENERAL OFFICES · TOLEDO 1, OHIO

How Givaudan's creative imagination enhances your perfuming skills



Through our associates in Geneva and Paris, L. Givaudan & Cie., you are kept informed of artistic trends and developments in the sophisticated world of fragrance on the European continent.



The skill and ingenuity of Givaudan perfumers, demonstrated in creations recognized throughout the world for their originality and success, are always available to Givaudan customers.

As the chemic ties as produc



You have the security of a continued sup-

ply and uniform quality.

Creative imagination, backed by modern facilities, is one of the many special benefits Givaudan offers its customers.

chemicals, Givaudan has developed facilities and techniques that permit volume

production under rigid quality control.



specific needs, Givaudan offers the co-

operation of its perfumers, all top rank

in creative skill and imagination.

Better perfume materials through constant research and creative ability

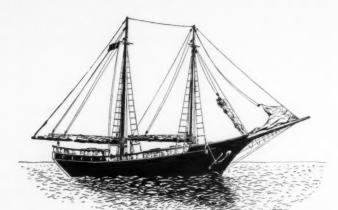
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Through our associates in Geneva and Paris, L. Givaudan & Cie., you are kept informed of artistic trends and developments in the sophisticated world of fragrance on the European continent.

The skill and ingenuity of Givaudan perfumers, demonstrated in creations recognized throughout the world for their originality and success, are always available to Givaudan customers.



Since the Days of the "Trading Schooner..."

FROM THIS LIST

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Soapers have depended on WH&C ... for Raw Materials of Quality

As the world's largest producer of perfume chemicals, Givaudan has developed facilities and techniques that permit volume production under rigid quality control.

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Givaudan offers you the widest variety of aromatic materials from a single source. You have the security of a continued supply and uniform quality. For custom-made fragrances to fit your specific needs, Givaudan offers the cooperation of its perfumers, all top rank in creative skill and imagination.

Creative imagination, backed by modern facilities, is one of the many special benefits Givaudan offers its customers.



Better perfume materials through constant research and creative ability

GIVAUDAN - DELAWANNA, INC. 330 West 42nd Street · New York 36, N.Y.

Branches: Philadelphia · Boston · Cincinnati · Detroit Chicago · Seattle · Los Angeles · Toronto

Hollenberg Heads Knapp

I. R. Hollenberg has been appointed president and technical director of Knapp Products, Inc., Lodi, N. J., it was announced last month. Dr. Hollenberg resigned last March from his previous positions as president of Van Dyk & Co. and vice president of Summit Chemical Products Co., both of Belleville, N. J.

Hersman Is Colgate Fellow

The Colgate fellowship in chemistry at the University of Illinois has been awarded to M. Frank Hersman, it was announced recently by Colgate-Palmolive Co., Jersey City, N.J., and the university. Mr. Hersman, a candidate for the doctorate, is engaged in a research project in the field of phosphate chemistry under the direction of L. F. Audrieth.

DCAT to Elect Officers

A new executive committee

cupation in Trieste. Upon completion of his college work he was general science instructor in Sag Harbor, L. I., high school. Mr. Davis will work primarily in the Chicago metropolitan area.

Diamond Atlanta Office

A new office in Atlanta, Ga., was opened recently by the agricultural chemicals department, chlorinated products division of Diamond Alkali Co., Cleveland. Albert F. Fuchs, assistant sales manager responsible for sales of DDT, BHC, lindane, and herbicides in the South for the past year, has been named to head the new office.

Sets Golf Dates

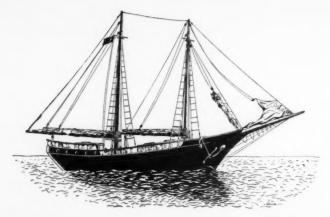
The Chemical and Allied Industries Association of Michigan recently announced the following schedule for its 1954 golf outings: June 29, Dearborn Country Club; July 27, Meadowbrook Country Club; August 24, Pine Lake Country Club; and September 28, Plumb

Syndet Price Control Bill

To reduce the retail price of "Surf," "Daz," "Fab," "Persil," "Tide," and other soap powders, soap substitutes, detergents, etc. is the object of a price control bill introduced recently in the House of Commons in England by Sir Richard Acland. The bill provides that any person who sells or agrees or offers to sell at prices higher than those on the proposed schedule shall be liable on summary conviction to imprisonment or fine. The President of the Board of Trade may vary the prices set out in the schedule when he is satisfied by evidence offered by manufacturers or traders, or by organizations having at least 1000 citizen members who are likely to be buyers of the goods, that it is reasonable to do so.

Van Dyk Elects Officers

Van Dyk & Co., Belleville, N. J., elected the following officers at a recent stockholders' meeting: Mrs. S. Isermann, president; How-



Since the Days of the "Trading Schooner..."

FROM THIS LIST

VEGETABLE OILS

Babassu Olive
Castor Palm
Cocoanut Peanut
Corn Sesame
Cottonseed Soybean

ANIMAL FATS

Sperm Oil Grease
Oleo Stearine Tallow
Lard Oil Lanolin
Neatsfoot Oil

FATTY ACIDS

Red Oil Tall Oil Tallow Stearic Acid Hydrogenated Fatty Acid Cottonseed and Soybean Fatty Acids

ALKALIES

Caustic Soda, Solid, Liquid, and Flake; Soda Ash, Light and Dense Carbonate of Potash, calcined and hydrated Calcium Chloride Tri Sodium Phosphate Tetra Pyro Phosphate Quadrafos Granular and Beads—a stable polyphosphate for water conditioning and mild but effective detergency.

Soapers have depended on WH&C ... for Raw Materials of Quality

SINCE 1838, we've been supplying the nation's "soapers" with basic raw materials.

SILICATE OF SODA—Liquid powdered and solid.

METSO* 200—(Sodium Orthosilicate)

METSO* ANHYDROUS—(Anhydrous Sodium Metasilicate)

METASILICATE—"Metso"* Granular.

METSO* DETERGENTS-55, 66, 99.

MAYPONS—Unique surface active agents; prolific foam; high detergency and emulsifying powers; suitable for cosmetic and industrial use.

AIR DRYETTES

CHLOROPHYLL

*Reg. U. S. Pat. Off., Phila. Quarts Co.

Let us mix your dry private formulas

Established 1838

Welch, Holme & Clark Co., Inc.

439 WEST STREET NEW YORK 14, N. Y. Warehouses in New York and Newark, N. J.

Hollenberg Heads Knapp

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DCAT to Elect Officers

A new executive committee will be elected by the Drug, Chemical and Allied Trades Section of the New York Board of Trade at the group's 64th annual meeting to be held September 23 through 25 at Pocono Manor Inn, Pocono Manor, Pa. The nominating committee which will present the slate consists of: Lloyd I. Volckening, Ivers-Lee Co., chairman; Harold C. Green, Strong Cobb Co.; Charles M. Macauley, Charles Macauley & Associates; Robert B. Magnus, Magnus, Mabee & Reynard, Inc.; C. P. Walker, Jr., Van Ameringen-Haebler, Inc.; and Claude A. Hanford, Pharmaco, Inc. Stanley I. Clark, Sterling Drug, Inc., chairman of the section, is an ex officio member.

Davis Joins D&O Sales

Jay Davis recently joined the sales staff of the Chicago branch office of Dodge & Olcott, Inc., New York, after several months with the firm's New York laboratories. A graduate of State Teachers College, Cortland, N. Y., Mr. Davis served with the 88th Division from 1945 to 1937, and with the Army of Oc-

cupation in Trieste. Upon completion of his college work he was general science instructor in Sag Harbor, L. I., high school. Mr. Davis will work primarily in the Chicago metropolitan area.

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Syndet Price Control Bill

To reduce the retail price of "Surf," "Daz," "Fab," "Persil," "Tide," and other soap powders, soap substitutes, detergents, etc. is the object of a price control bill introduced recently in the House of Commons in England by Sir Richard Acland. The bill provides that any person who sells or agrees or offers to sell at prices higher than those on the proposed schedule shall be liable on summary conviction to imprisonment or fine. The President of the Board of Trade may vary the prices set out in the schedule when he is satisfied by evidence offered by manufacturers or traders, or by organizations having at least 1000 citizen members who are likely to be buyers of the goods, that it is reasonable to do so.

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Dr. Thomas H. Vaughn, left, vice-president for research and development of Colgate-Palmolive Co., Jersey City, N. J. presents check for \$12,000 to Dr. Lewis Webster Jones, right, president of the State University of New Jersey, as Dr. Peter A. van der Meulen, head of Rutgers School of Chemistry, looks on. The money will be used to support three graduate fellowships in chemistry. Each will provide \$2,000 a year for two years of graduate study and research. Colgate has placed no restrictions on the fellowships but at least one of the fellows will work in the field of aromatics and essential oils.



Introducing

VANCIDE* 89

The New Broad Spectrum

Bactericide - Fungicide**

For use in all types

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Soap and Sanitary Formulations



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Alcolac Names North Coast

North Coast Soap & Chemical Co., Seattle, has been apppointed distributor of industrial chemicals and detergents by American Alcolac Corp., Baltimore, it was announced recently. North Coast has branch offices in Tacoma, Spokane, and Yakima, Wash., Portland, Ore., and Butte, Mont.

Sharples Advances Three

Three executive appointments were announced recently by Sharples Chemicals Inc., Philadelphia. C. E. Webb, with Sharples for the past 13 years, has been named assistant to the president. His duties will be related to production. Perrin G. Smith is assistant to the president, with duties consisting of staff work in the field of chemical research and development. He has served Sharples in these fields since 1940. R. W. Sloan is manager of market development, responsible for promotion and sale of new products and for market research. He has been a member of the development department since 1947.

Rated High by A.I.M.

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Procter & Gamble Co., Cincinnati, and Colgate-Palmolive Co., Jersey City, N. J., are included in the list of excellently managed companies by the American Institute of Management. The Institute's 1954 edition of Manual of Excellent Managements shows 348 top companies chosen from 4,000 organizations studied in the United States and Canada. Procter & Gamble Co. rates among the first twelve firms on the list.

Walter Nay Drowns

Walter Ross Nay, regional sales manager in Chicago for Mallinckrodt Chemical Works., Inc., St. Louis, was drowned while swimming April 6, at Pompano, Fla., where he was vacationing. Mr. Nay was widely known in the chemical, soap and perfume industry throughout his territory and had long been a leading figure in activities of the

Chicago Perfumery, Soap and Extract Association. Funeral services were held April 12 in Chicago. Surviving are his widow, two daughters, a son, his mother and two brothers.

Witco Opens L. A. Plant

First Pacific coast plant of Witco Chemical Co., New York, was opened last month in the Lynwood section of Los Angeles. Arnold Hoffman, formerly at the firm's Chicago plant, is in charge of production.

Diamond Names Two

Diamond Alkali Co., Cleveland, announced recently the advancement of C. A. Butler, Jr., director of engineering since 1946, to the newly created post of director of commercial development. At the same time Loren Scoville, since 1951 vice-president in charge of engineering, purchasing, and operations for Jefferson Chemical Co., New York, was appointed to take over Mr. Butler's responsibilities as Diamond's director of engineering.

Mr. Butler has been with Diamond Alkali since 1941. He assumed his duties of formulating and coordinating the firm's commercial development program in May, following his attendance at Harvard University's Advanced Management Training course. Mr. Scoville has been associated with Jefferson since 1944, when it was formed.

Irenee du Pont Chairman

Irenee du Pont was elected honorary chairman of the board to succeed his brother Pierre S., who died earlier, it was announced recently by E. I. du Pont de Nemours & Co., Wilmington, Del. Irenee du Pont was president of the company from 1919 to 1926, and vice chairman of the board until 1940.

William du Pont, Jr., was elected to the finance committee to replace Pierre du Pont and Hugh R. Sharp, Jr., takes Pierre du Pont's place on the bonus and salary committee.

Berquist to Colgate

Raymond H. Berquist has joined Colgate-Palmolive Co., Jersey City, N.J., as personnel director, it was announced recently. Mr. Berquist previously was with American Cyanamid Co., New York, as employee relations director of its Warner Works, Linden, N.J. He served three years in the U.S. Navy as a commissioned officer during World War II.

Atlantic Chairman Retires

Robert H. Colley retired as chairman of the board of Atlantic Refining Co., Philadelphia, effective April 30. He continues as a member of the board. Mr. Colley jointed Atlantic in 1919 and became its president in 1937. In May 1952 he was succeeded in the presidency by Henderson Supplee, Jr., and at that time was elected chairman of the board. He is an honorary life director of the American Petroleum Institute,

New Windshield Cleanser

New water white "Shell" windshield cleanser is the subject of a feature article in a recent issue of Shell Progress, published by Shell Oil Co., New York. The product is claimed to leave no film. It operates by a solvent-detergent action. The solvents completely vaporize, even in cold weather, carrying the detergent with them as they evaporate. The water contained in the cleanser is treated to remove hardness and leaves no scale. The cleanser is sprayed on the windshield; if wiped with a paper towel it will develop foam, if wiped with a cloth it will do its job without foaming.

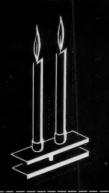
In Wyandotte Post

R. W. Hagemeyer has been advanced to the post of product manager of calcium carbonate sales by Michigan Alkali Division, Wyandotte Chemicals Corp., Wyandotte, Mich., it was announced recently. Mr. Hagemeyer, with Wyandotte since 1948, spent a year developing application data for "Purecal" and was then appointed assistant to the manager of calcium carbonate sales.

__ *-



A New Light on Stearic Acid



Candles burn cleaner when made with a Stearic Acid of low ash content. Century Brand Stearic has the lowest ash content of any on the market today. Careful selection of raw materials and care in processing make Century Brand Stearic Acid the best for candles.



Stearic Acid Esters are whiter when made with Century Brand Stearic Acids because of their exceptional heat stability. Glycerol Monostearates with colors of 5 Yellow and 1.0 Red (5¼" Lovibond) have been produced with Century 1220 Double Pressed Stearic Acid without bleaching.



Cosmetic creams and lotions stay lighter when made with Century Brand Supra Grade Stearic Acid. An iodine value of less than 1 combined with excellent stability make Century the top Stearic Acid for cosmetics.

For these and other uses there is a grade of Century Brand Stearic Acid to meet your requirements.

W. C. HARDESTY CO., Inc. Century Stearic Acid Products, Inc.

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PLANT: DOVER, OHIO
In Canada: W. C. Hardesty Co. of Canada Ltd., Toronto

More Bar Form Detergents Predicted

I'T won't be long now before synthetic detergents will be used widely in bar form as toilet soaps an executive of Lever Brothers Co., New York, said in Chicago recently.

Speaking before the Electric Women's round table, C. F. Hayward, chief of the detergents evaluations section of Lever's research and development division at Edgewater, N. J., said the new products will be even milder than pure soap, will lather profusely and leave no "bathtub ring" or deposit on shower curtains, even in hard water.

Among other future detergent developments Mr. Hayward predicted a liquid for heavily soiled laundry, similar to the mild products now used for dishwashing and shampoos. Such a detergent can be stored in small space, he said, is easily measured and quickly dissolved in water. More detergents will appear in pastel colors and with built in conditioners, he predicted.

Skin cleaners that condition the skin, comparable to present hair shampoos, are also a prospect for the future, he claimed, along with heavy duty washing products that will also make fabrics resistant to wrinkles and to soil. The detergents to come, he declared will truly be all-purpose washing products that can be used for heavily soiled laundry as well as delicate fabrics and dishes.

Now that women have become accustomed to working with detergents, complaints about their irritating effects on hands will not be so frequent as when the products were first introduced, Mr. Hayward said.

Manufacturers, he said, find it is going to take a long time to educate women not to look for suds when they use detergents. He referred to surveys showing a preference for high sudsing detergents with moderate cleansing ability, rather than low sudsers with excellent cleansing power. The amount

of suds, he emphasized, has no bearing on the quality of a synthetic detergent.

Detergent Plant Fire

Fire department spokesmen blamed the chemical, Perchloron, for two explosions at the plant of Gateway Chemical Co., Chicago, recently. Two men and three women were injured, and one of the latter subsequently died. The first explosion occurred while one of the men injured was mixing a detergent formula. Firemen, who were called, were preparing to leave when the second explosion took place in an adjoining room where the women were at work with the same chemical. The Perchloron, it was said, was being used at the Gateway plant for the first time and it was believed that either vapors or dust from the compound had been ignited by sparks.

Ludlow To Coast

Lewis M. Ludlow has been appointed a field representative of the Pacific district office, M. A. Division, Wyandotte Chemicals Corp. Wyandotte Mich., anounced recently. He began his new assignment on May 1, 1954 working out of San Francisco. His territory includes the states of Utah, Idaho, Montana, Washington and Oregon as well as northern California and British Columbia.

Lewis M. Ludlow



Mr. Ludlow is a graduate chemist of V.M.I. and Miami University of Ohio. He joined the organic department at Wyandotte in 1950 and more recently was assistant to the manager of synthetic detergents.

MCA-SOCMA Meeting

Admiral Lewis L. Strauss, chairman of the Atomic Energy Commission, and the Rt. Hon. C. D. Howe, Minister of Trade and Commerce and Minister of Defense Production of Canada, addressed some 600 members of the Manufacturing Chemists' Association and the Synthetic Organic Chemical Manufacturers' Association at the 82nd annual meeting of MCA at The Homestead, White Sulfur Springs, W. Va., June 3-5.

Controllers Elect Beadon

R. P. Beadon, comptroller and assistant treasurer of Procter & Gamble Co. of Canada Ltd., Toronto, has been elected to membership in the Controllers Institute of America, it was announced recently.

Webb-Peploe Dies

Robert Hammond Webb-Peploe, with Lever Brothers Co., New York, from 1940 to 1946, died in Warrenton, Va., on April 4. He worked in an executive capacity at Lever's offices in Cambridge, Mass. Mr. Webb-Peploe was fifty-nine years old. He is survived by his wife, the former Miss Grace Hamilton; his mother, Mrs. Laura Webb-Peploe; and a brother, Hanmer Webb-Peploe of Long Branch, N. J.

BIMS Golf Dates for 1954

BIMS of Boston recently announced that it intends to hold the following golf outings this year: June 24, Western Golf Club, Weston, Mass.; August 19, Dedham Country & Polo Club, Dedham, Mass.; September 15, Nashua Country Club, Nashua, N. H. The group held a Ladies Night at Weston on April 24.



WA-Paste, WAQ, WA-Special, smooth creamy texture, rich pearl lustre. For paste or liquid creme shampoos, rubber processing, textile cleaners, etc.

A Withous Beauty Burner



WAT . . . Triethanolamine neutralized, ideal for clear liquid shampoos, bubble baths, liquid dishwashing detergents.



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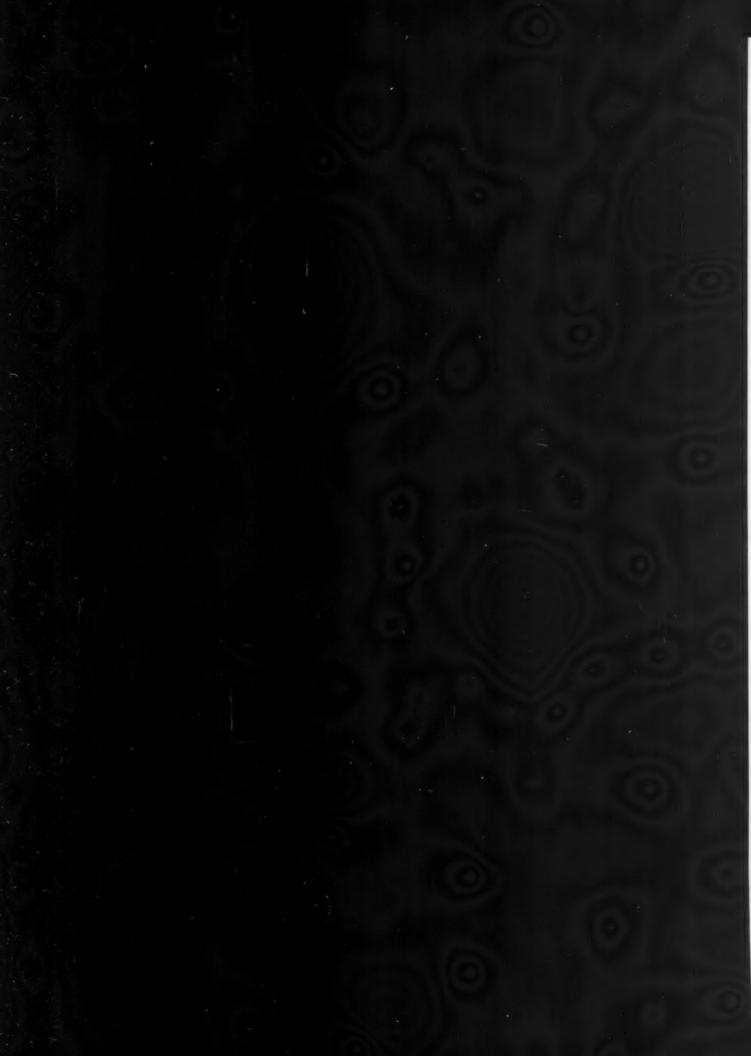
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Newman to Colgate

David F. Newman has joined Colgate-Palmolive Co., Jersey City, N. J., as chemist in the quality con-



Daivd F. Newman

trol division of the department of research and development, it was announced last month. A graduate of the University of Minnesota, Mr. Newman is currently engaged in advanced studies at Rutgers University. He was previously employed by Kearfott Manufacturing Corp., Clifton, N. J.

J. B. Magnus Feted

Joseph Baird Magnus, vice president, Magnus, Mabee & Reynard, Inc., New York, was entertained by company executives at a luncheon held at the Wool Club, New York, last month in honor of his 58th birthday. Mr. Magnus has been associated with the firm since 1916.

Irey Heyden V. P.

Kenneth M. Irey has been elected vice president of Heyden Chemical Corp., New York, it was announced recently by Simon Askin, president. With Heyden since 1949, Mr. Irey has been chemical production manager since 1953. His previous affiliations include Monsanto Chemical Co., St. Louis, and Commercial Solvents Corp., New York.

Victor Builds New Plant

Victor Chemical Works, Chicago, recently broke ground for a new plant in Chicago Heights. A number of new organo-phosphorus compounds will be made in the three story building scheduled for completion this fall, according to Howard Adler, vice president in charge of chemical research. In addition to manufacturing facilities the plant will include a loading dock, freight elevator, and several special equipment rooms. It will house a staff of 30 technicians.

At the ground breaking ceremonies for new Victor Chemical Works, Chicago, plant in Chicago Heights. A number of new organo-phosphorus compounds will be made in the three story building scheduled for completion this fall.

Jespersen Rejoins N-B-W

Alan H. Jespersen has returned to Neumann - Buslee & Wolfe, Inc., Chicago, after serving



Alan H. Jespersen

two years in the Chemical Corps of the Armed Forces, it was announced recently. Mr. Jespersen was a member of the firm's technical staff for several years prior to his tour of duty in the service. Currently his efforts are devoted to sales in Chicago and the surrounding area.

A. Givaudan to Europe

Andre Givaudan, a director of L. Givaudan & Cie, S.A. and its affiliates recently left for Paris after completing his semi-annual visit to this country, it was announced by Givaudan - Delawanna, Inc., New York. Mr. Givaudan attended the meeting of the Toilet Goods Association in New York City.





Balanced performance...

for liquid-cream shampoos...with

Du Pont "DUPONOL"* WAQ detergent

"DUPONOL" WAQ surface-active agent is a perfectly "balanced" detergent for your formula. It contains every property you need—blended to give maximum performance in liquid-cream shampoos.

Check these properties of "DUPONOL" WAQ and see why it will give you a better product...

"DUPONOL" WAQ is a viscous white paste, designed for the very whitest liquid cream shampoos—plain or "pearlescent."

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"DUPONOL" WAQ gives you thorough cleansing action, yet it can easily be formulated for gentle, non-drying performance.

"DUPONOL" WAQ is stable to light, heat, and ageing, giving you a product that stays attractive . . . stays effective.

"DUPONOL" WAQ has no strong short-chain alcohol odor to interfere with your perfume formula

Du Pont has prepared dozens of formulations based on "Duponol" Waq. For your copy of "Duponol' Waq Shampoo Formulations," write E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Delaware.

*Trade-Mark for Du Pont's Surface-Active Agents



Du Pont **DUPONOL WAQ** detergent



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Wyandotte Appointments

Wyandotte Chemicals Corp., Wyandotte, Mich., recently announced the following appointments in the research and development division: Phelps Trix, manager of the development department; Ronald A. Graham, manager of contract research; Arthur B. Ash, project supervisor in charge of all contract chemical research; David J. Craig, project supervisor in charge of all contract physical research; and John T. Patton, section head, organic research department.

Atlantic Advances Four

Atlantic Refining Co., Philadelphia, recently announced four personnel changes in its chemical products sales division. Robert J. Beck, previously sales engineer at the Chicago office, has been advanced to the post of eastern sales manager. He now supervises chemical products sales activities of the Philadelphia, Providence, and Charlotte offices and acts as the firm's liaison with its Canadian distributor.

A. H. Milask, former eastern sales manager, has been appointed home office sales manager and supervises chemical products foreign sales activities. N. S. Haas has been advanced from administration and operation manager to product coordinator and special products sales manager. William B. Packer, former market research assistant, has been named chemical product sales engineer, attached to the Chicago sales office, which serves Ohio, Indiana, and Michigan.

Low Cost Detergents

A plant for the manufacture of detergents, fungicides, and paints from low-price raw materials based on the residue of heavy solar oil will be in operation in Israel within the next eight months, it was learned recently. Kadimah Chemical Corp., Haifa, a manufacturer of conventional type detergents has bought the patent rights for this new process and registered them on a worldwide basis. The firm which is financed by private American

capital has allocated \$250,000 for the erection of the new plant. Herbert Bernstein, managing director of Kadimah, was formerly professor of chemistry at the Illinois Institute of Technology in Chicago.

Snell Ups Schoenholz

Foster D. Snell, Inc., New York, recently announced appointment of Dan Schoenholz to the post of director of product development and of Bernard Berkeley as assistant director. Both men have been with Snell since 1944. Mr. Schoenholz has been a research group director in charge of wax, paint and varnish work. In his new position he is in charge of product development, applied research and testing in the fields of waxes, polishes, paints, varnishes, inks, adhesives, and chemical specialties. Mr. Berkeley has been a group leader in the field of chemical specialties.

Dirksen in New Post

A. J. Dirksen, with American Potash & Chemical Corp., Los Angeles, since 1953, has been appointed director of sales development according to a recent announcement by Peter Colefax, the firm's president. Dr. Dirksen was eastern representative of American's sales development department. He is located at the New York office.

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Canadian Colgate Changes

A number of senior executive appointments were announced recently by C. R. Vint, president of Colgate-Palmolive Ltd., Toronto, Ont. Carl Guy Grace now is executive vice president and general manager of the firm, and has been elected to the board of directors. Another director of the company, Frank W. Hill, has been appointed vice president in charge of sales, Robert E. Jones, advertising manager since 1945, has been advanced to the post of vice-president in charge of advertising, and George Gourley, secretary and office manager, is now vice president in charge of finance.

Lever Wage Boost

A six cents hourly wage increase was granted to approximately 1,000 employees at the Hammond, Ind. plant of Lever Brothers Co., New York, it was announced recently. The contract was signed last month by Local 336 CIO United Gas, Coke and Chemical Workers Union and Lever Brothers. Included are company paid pensions, life and health and surgical insurance, payment of wages during illness, and three weeks vacation after ten years service plus nine paid holidays.

Filtrol Sales Appointments

Filtrol Corp., Los Angeles, recently announced the appointment of Robert C. Davidson as sales manager, succeeding the late Stanard R. Funsten.

The following sales and service assignments were announced at the same time: H. D. Bartholomew and L. L. Richardson, Chicago; Gerald Mansfield, Denver; Walter Kitchens and J. E. Leehey, Houston; George Benck, Jackson, Miss.; M. J. Kerchner and J. D. Barton, Los Angeles; I. A. Schwint, Wilmington, Del.; and L. C. Trescerr, Woodbury, N. J.

Davies-Young Folder

A new mailing piece for sanitary supply jobbers and maintenance customers was announced recently by Davies-Young Soap Co., Dayton, O. The new brochure, which has been developed for the company's bulk division, unfolds into a sheet 28 inches wide by 1034 inches deep. One side of the folder is printed in brown and the reverse side is green. Panels 33% inches wide x 10 inches deep are devoted to 12 different maintenance products made by Davies-Young, Information and illustrations of the entire line of "Buckeye" products are featured. Products covered in the folder include: "Synd", "Blue", "Seal", "Beamax", "Dysept", "Bol Cleaner", "Tred-Safe", "Dy-Dust", "X-39 Degreaser", "Dysh" and "Waterless Hand Cleaner".

Acid test...

OW many people really **read** a magazine? That's the acid test of advertising value. Not how many people receive the magazine, but how many read it!

A publisher may dump thousands upon thousands of copies of his magazine into the post-office and they will be delivered to the alleged readers. But who knows how many are read and how many find their resting place in a handy waste basket?

There is, however, a real yardstick to measure which magazines are read and which are not. This is that little quiet and unobtrusive figure which shows up in all Audit Bureau of Circulations (ABC) reports for member magazines, — the subscription renewal percentage. In other words, how many readers buy the magazine again and again, year after year.

High sales pressure and fast talking subscription salesmen may sell a subscriber once, but the magazine has to do its own selling the second, third, fourth, etc. year thereafter. Editorial value is the determining factor. So, if a subscriber pays out his good money year after year for a publication, this is pretty good evidence that he reads it.

Hence, SOAP & CHEMICAL SPECIAL-TIES is always happy when advertisers examine its ABC circulation reports closely. These have consistently shown a subscription renewal percentage over 80%. Anywhere between 65% and 70% is considered pretty good by circulation people. It is not uncommon for some general magazines to renew as few as 40-45%.

Now, understand we are talking about paid circulation magazines. Those magazines which are just sent out willy nilly in large numbers to lists of alleged readers, wholly unsolicited, unordered and free as the air are not even being considered here. Who knows what happens to them after they go in the mail,—that is, if they really go in the mail?

If these free magazines have all the circulation they claim and people want and need the books, why don't the publishers sell them to the readers? Glib salesmen may try to answer this question, but the answers we have heard were strictly evasive sales gab. And pretty much the same goes for those "paid circulation" magazines which claim every thing, but prove nothing. Neither can they pass a circulation test, acid or otherwise.

Now, to get back to this 80% paid subscription renewal rate of SOAP & CHEMICAL SPECIALTIES,—that's why advertising in the magazine is hard-hitting and effective, gives deep penetration of its market. SOAP & CHEMICAL SPECIALTIES is **read** and the figures, the acid test, prove it.

SOAP & Chemical Specialties

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MIXTURES

Mixtures containing phosphates, alkalis, detergents, etc. formulated to order.

*HEXAPHOS is the trade-mark of FMC for it's brand Sodium Hexametaphosphate

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If we aren't already supplying a fair share of your needs, this is an excellent time to find out how well Westvaco can serve you on alkalis and phosphates.

No other producer offers so complete a line of the principal chemicals used in soaps, shampoos, detergents and sanitary

specialties . . . with one standard of quality and service . . . with one responsibility from the receipt of your order to the delivery at your plant.

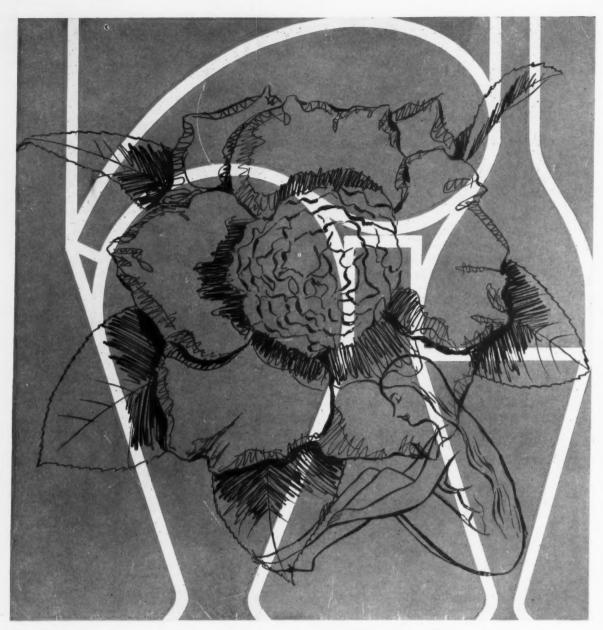
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ASPIDISTRA-1041 \$4.80 lb. A long-lasting fragrance of universal appeal, particularly

A long-lasting fragrance of universal appeal, particularly appropriate for fine shampoos and shaving creams. Jasmin, rose and muguet blended in exotic bouquet with rich, woody note of spicy and aldehyde character.

CONCENTRE VERT DE MUGUET CPS-2234......\$6.00 lb.

A fine interpretation, at low price, of the delightful Muguet des Bois (lily-of-the-valley) fragrance, designed for use in high-grade shampoos. At once fresh and heady, this cool, green scent is remarkably long lasting.

Write us for samples of the concentrates themselves or of the perfumed finished products.

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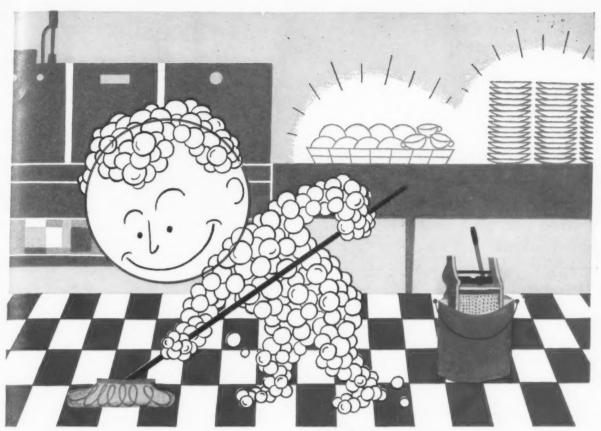
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The ULTRAWETS wet, penetrate, clean, emulsify

Versatile cleaner makes light work of heavy jobs

THE ULTRAWETS



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In Europe: Atlantic Chemicals SAB Antwerp, Belgiuce Name any tough institutional or factory cleaning job: floors, walls, paints, dishes, machinery. Many leading compounders today are finding the greatest efficiency and economy by using the Ultrawets in their formulations.

ULTRAWETS are superior quality alkyl aryl sulfonates that work under widely varying conditions—cold water, hot water, soft water, hard water. ULTRAWETS go into solution quickly. Leave no hard water precipitates. Emulsify grease. In all types of cleaning compounds, scouring powders, and sanitizers, ULTRAWETS speed soil removal, keep solids in uniform suspension, and make for easy rinsing.

Discover the multiple advantages of using Ultrawets in your packaged cleaning preparations. Available in flake and bead of varying densities and in liquid form. Complete technical assistance in your application problems. For complete information, send coupon below, or write.

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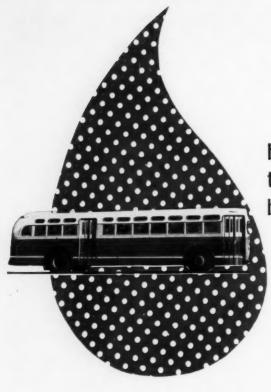
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For Effective Cleaning
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SANTOMERSE IONICS STEROX NONIONICS complete line of PHOSPHATES

You can rely on Monsanto for impartial, practical technical advice on the wetting agents and phosphates that are best for your formulation, because Monsanto makes both anionic (Santomerse*) and nonionic (Sterox*) wetting agents and a complete line of builder phosphates.

For example, one of Monsanto's leading wetting agents, Sterox AJ, can be used wherever a nonionic with these advantages is required:

Unusually high wetting power, emulsifying properties and surface activity.

- High stability in acid and alkaline media as well as hypochlorite.
- Faint, pleasant odor
- Compatible with anionic or cationic soaps. Can be used with soaps and sanitizers.

Why not let Monsanto's technical service group work with your staff to determine the type wetting agent and phosphate best for your products? For more information, write MONSANTO CHEMICAL COMPANY, Inorganic Chemicals Division, 1700 South Second Street, St. Louis 4, Missouri.



*Trade-mark Reg. U. S. Pat. Off.

Bids and AWARDS

QM Award to Sherwin-Wms.

Sherwin-Williams Co., New York, received the award on 132,-250 pounds of fungicide in a recent opening for miscellaneous supplies by the Quartermaster Purchasing Agency, New York. The winning bid was 48 cents; total \$63,480.

Disinfectant Tablet Bids

Fine Organics, Inc., New York, and Derf Products Co., St. Louis, Mo., submitted low bids on 574,200 grams of deodorant-disinfectant tablets, included in a recent opening for miscellaneous supplies by the Air Force Depot at Topeka, Kansas. Fine Organics' bid was \$.004, ¼ percent, as required; Derf's bid was \$.004, one percent, substituting 25 percent "Hyamine 10-x", 45 days.

Stahl, Murrow Low Bidders

Stahl Soap Corp., Brooklyn, N. Y., submitted the low bid of 6.8 cents on laundry soap included in a recent opening for miscellaneous supplies by the Post Office Department, Washington D. C. In an opening for soap powder by the same agency low bids were submitted by Murrow Chemical Co., Portsmouth, Va., as follows: item 1, 7 cents and item 2, 7 cents.

Reliance Gets Award

Reliance Chemical Co., Louisville, Ky., won the award on 11,155 gallons of cleaning compound in a recent opening for miscellaneous supplies by the U. S. Air Force, Topeka, Kansas. The Reliance bid was \$107,260.

- * -

Tennessee Soap Awards

The award on 189,720 pounds of soap chips went to Tennessee Soap Co., Memphis, in a recent opening for miscellaneous supplies by the Federal Supply Service, Atlanta, Ga. The Tennessee bid was 8.67 cents, truckload, f.o.b. origin; 9.53 cents, carload, f.o.b.

East Point, Ga.; or 9.42 cents, truckload, f.o.b. East Point, Ga.

Bids on Carbon Remover

Carbon removing compound, item la, 105,000 gallons and item lb, 9,000 gallons, delivery as required, was included in a recent opening by Tinker Air Force Base, Okla. Low bids were submitted by Reliance Chemical Co., Louisville, Ky., on item la, \$1.099; and by Octagon Process, Inc., Staten Island, N. Y., on item lb, \$1.2272.

Barco Weed Killer Bid

Barco Chemicals, Inc., Des Moines, Ia., submitted the low bid of \$2.52 on weed killer, f.o.b. New Orleans, included in a recent opening for miscellaneous supplies by the Corps of Engineers, New Orleans, La.

Low Bid by Koppers

Koppers Co., New York, submitted the low bid of 15.75 cents on naphthalene in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C.

Polish Award to Trio

Trio Chemical Works, Inc., Brooklyn, N. Y., received the award on liquid metal polish with a bid of 49 cents per gallon in a recent opening for miscellaneous supplies by the Post Office Department, Washington, D. C.

Low Harley Soap Bid

Harley Soap Co., Philadelphia submitted the low bid of 8.6 cents per pound on soap in a recent opening for miscellaneous supplies by Health, Education, and Welfare Department, Washington, D. C.

Floor Machine Award

Holt Manufacturing Co. of N. J., Newark, obtained two awards on floor polishing machines included in recent openings by the Post Office Department, Washington, D. C. The Holt bids were \$125.50 each and \$116.50 each, respectively, delivered to various destinations.

Climalene, AMR Awards

In a recent opening for deodorant cleaner by the Federal Supply Service, Kansas City, Mo., Climalene Co., Canton, O., won the award on item one with a bid of 12 cents and AMR Chemical Co., Brooklyn, N.Y., submitted the low bid of 6.75 cents on item two.

Low Soap Bids

Trio Chemical Works, Inc., and Stahl Soap Corp., both of Brooklyn, N. Y., submitted low bids in a recent opening for soap by the Federal Supply Service, New York. Stahl bid 5.98 cents on item one and Trio 5.6 cents on item two.

Barco Low Herbicide Bid

Barco Chemicals, Inc., Des Moines, Ia., submitted the low bid of \$2.85 on herbicides, included in a recent opening by the Savanna Ordnance Depot, Ill.

Low Soap Bids

Standard Soap Co., Camden, N. J., and Kamen Soap Products, Inc., New York, submitted the low bids in a recent opening for soap by the Quartermaster Purchasing Agency, New York. The Kamen bid on item (a) was: 4.89 cents, on two million domestic bars and 5.19 cents, export, bidding on four million bars; Standard's bid was: item (b), 5.3 cents, domestic, and 5.78 cents, export, as required.

Hannan UCC V. P.

Kenneth H. Hannon, secretary and treasurer of Union Carbide and Carbon Corp., New York, since 1952, has been named vice president, it was announced recently. He will continue to serve as secretary and is succeeded as treasurer by John F. Shanklin, who joined Carbide in 1934 after graduating from Purdue University. Mr. Hannan joined the law department of the corporation in 1936 upon graduation from Yale Law School.



Harold R. Nelson, President, Michigan Bleach Corp., Detroit, Mich.

"We're building our bleach business on quality ingredients"

- Harold R. Nelson, President, Michigan Bleach Corp.

"We are one of the largest producers of concentrated sodium hypochlorite bleach in this area," says Harold R. Nelson, President, Michigan Bleach Corp., Detroit, Mich. "Our product is used principally for treating waste, bleaching of textiles, and some home bleach.

"We know that the life and stability of the finished bleach depend directly on the purity of the raw materials, and just as our customers count on us for this purity, we count on Wyandotte for especially pure Caustic and Chlorine. We also depend on Wyandotte for technical service, special laboratory tests and data, and timely tips on the handling of chemicals."

Have you talked to the Wyandotte representative lately? Remember, behind your Wyandotte representative and the high-quality chemicals he sells is a corporation that owns its own salt wells and limestone quarries—one with complete manufacturing and research facilities conveniently located in the great and growing Middle West.

It may help you to discuss your present requirements, and future projects, with Wyandotte. Wyandotte Chemicals Corporation, Wyandotte, Mich. Offices in principal cities.



HEADQUARTERS FOR ALKALIES

Soda Ash • Caustic Soda • Bicarbonate of Soda • Chlorine Calcium Carbonate • Calcium Chloride • Clycols • Synthetic Detergents • Agricultural Insecticides • Soil Conditioners Other Organic and Inorganic Chemicals

NEW Erade Marks

 $\mathbf{T}^{ ext{HE}}$ following trade marks were published in recent issues of the Official Gazette of the U.S. Patent Office in compliance with section 12(a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gasette. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of \$25 must accompany notice of opposition.

Clad-This for floor wax. Filed June 29, 1953 by J. I. Holcomb Manufacturing Co., Indianapolis. Claims use since June 6, 1953.

Dog-Wick—This for dog and

cat repellent. Filed January 3, 1952 by William Howard, doing business as National Scent Co. and as Pacific Coast Scent Co., Chilhowee, Mo., and Compton, Calif. Claims use since December 11, 1951.

Cuproquin - This for liquid fungicides and mildewproofing agents. Filed May 1, 1953 by Alrose Chemical Co., Cranston, R.I. Claims use since

June 24, 1952.

V-C Baclor-This for calcium hypochlorite sanitizing agent. Filed July 1, 1953 by Virginia-Carolina Chemical Corp., Richmond, Va. Claims use since November 1952.

Flyex-This for insecticide vaporizing tablets. Filed August 4, 1953 by Flyex Distributors, Washington, D. C. Claims use since April 7,

1953.

Quix-This for chemical concentrate for use in insecticide sprays. Filed September 14, 1953 by Mc-Laughlin Gormley King Co., Minneapolis, Minn. Claims use since August 14, 1953.

W.A.R.F.-42-This for rodenticide. Filed September 14, 1953 by Wisconsir. Alumni Research Foundation, Madison, Wis. Claims use since June

29, 1950.

Coro-SDD-This for liquid fungicide. Filed September 16, 1953 by Pittsburgh Plate Glass Co., Pittsburgh, Pa. Claims use since June 4, 1953.

Aero-Shave-This for aerosol packaged shaving cream. Filed November 5, 1952 by Boyle-Midway, Inc., New York. Claims use since April 10, 1952.

Escort-This for shave cream. Filed June 12, 1953 by William H. Stevens, Jr., doing business as William H. Stevens and Sons, Des Moines. Claims use since February 25, 1946.

Clienware-This for glass and dishwashing compound. Filed March 1, 1951 by Lien Chemical Co., Franklin Park, Ill. Claims use since July 28, 1947.

Shampac-This for hair shampoo. Filed July 24, 1951 by Samuel Bonat & Bro., Inc., New York. Claims use since September 15, 1950.

Minit-Magic-This for cleaner. Filed July 2, 1953 by Clifford E. Loman, doing business as Heidite Products Co., Hammondsport, N.Y. Claims use since September 1951.

Energetic-This for synthetic detergent sold in bulk. Filed September 14, 1953 by Armour & Co., Chicago. Claims use since 1953.

Dustoff-This for liquid for application to floor, wall, etc., to prevent dust from flying when surface is swept. Filed May 8, 1953 by Parker-Mayer Co., North Oxford, Claims use since June 2, 1952.

Rootrol-This for preparation destroying and preventing root and fungus growth in sewer pipes. Filed September 21, 1953 by Ross Manufacturing Co., Kansas City, Mo. Claims use since September 2, 1953.

S-W-F-This for insecticides. Filed September 21, 1953 by Southwest Fertilizer & Chemical Co., El Paso, Texas. Claims use since June

1, 1953.

CAB-66-This for solvent for removing carbon, wax, gum, tar, oil, etc. from metal. Filed September 7, 1950 by Fischer Industries Inc., Cincinnati, O. Claims use since December 9, 1948.

Grimebuster - This for powdered hand soap. Filed March 1, 1951 by Lien Chemical Co., Franklin Park, Ill. Claims use since May 21, 1948.

Trust—This for disinfecting and deodorizing detergent. Filed February 16, 1953 by Essential Chemicals Co., Milwaukee, Wis. Claims use since September 29, 1952.

Give-This for bar soap and liquid detergent. Filed March 9, 1953 by Andrew Jergens Co., Cincinnati, O. Claims use since February 12,

Mirame-This for toilet soap. Filed September 21, 1953 by Colgate-Palmolive Co., Jersey City, N. J. Claims use since June 23, 1953.

Detertex-This for powdered textile detergents. Filed September 22, 1953 by United Aniline Co., Boston Mass. Claims use since January 1942.

Li-Jen-This for liquid detergents used in steam jennies for the cleaning of light soils. Filed September 28, 1953 by Finger Lakes Chemical Co., Etna, N. Y. Claims use since July 8, 1953.

Plus Seven-This for concentrated shampoo. Filed October 12, 1953 by Samuel Bonat & Bro., Inc., Paterson, N. J. Claims use since August 13, 1953.

Pamper - This for shampoo.

Filed November 6, 1953 by the Gillette Co., doing business as the Toni Co., Gillette Park, Boston, Mass. Claims use since June 22, 1953.

Glass Gloss-This for combined cleaning and polishing preparation. Filed May 18, 1953 by Bon Ami Co., New York. Claims use since March 1, 1931.

S. B. Penick & Company-This for insecticides. Filed July 26, 1952 by S. B. Penick & Co., New York. Claims use since 1914.

Irgane - This for chemical mothproofer for fibers and fabrics. Filed by Geigy Chemical Corp., New York. Claims use since July 2, 1953.

EMFAC-This for polishes, insecticides, etc. Filed October 16, 1953 by Emery Industries, Inc., Circinnati, O. Claims use since September 22, 1953.

Frost-This for laundry and household bleaches. Filed October 16, 1953 by Pennsylvania Salt Manufacturing Co., Philadelphia, Pa. Claims

use since May 29, 1953.

Tredcote-This for liquid floor preservative coating or for preparation for all types of floor surfaces used for glossy and slip resistant purposes. Filed August 21, 1953 by West Disinfecting Co., Long Island City, N. Y. Claims use since August 1, 1953

Ro-Vor-This for shave cream. Filed November 3, 1953 by Joseph A. Gilbert, Danvers, Mass. Claims use

since August 19, 1953.

Pural-This for all purpose detergent. Filed February 9, 1952 by De Goss Laboratories, New York. Claims use since September 1951.

Kwik-Silver-This for silver cleaner. Filed January 6, 1953 by Cidex Corp., Jersey City, N. J., assignor to Coronet Chemical Co., Jersey City N. J. Claims use since September 9, 1952.

Kiwi-This for white cleaner. Filed March 12, 1953 by Kiwi Polish Co. Proprietary Ltd., Richmond near Melbourne, Victoria, Australia and Philadelphia, Pa. Claims use since June 20, 1952; and first use in commerce among the several States June 20, 1952.

Velvapax-This for skin clean-Filed April 10, 1953 by G. H. Manufacturing Co., St. Packwood Louis, Mo. Claims use since December 30, 1949.

Big-Cat-This for liquid degreaser for removing dirt and grease from metallic surfaces. Filed April 10, 1953 by G. H. Packwood Manufacturing Co., St. Louis, Mo. Claims use since June 21, 1950.

T-22-This for powdered skin cleanser. Filed April 10, 1953 by G. H. Packwood Manufacturing Co., St. Louis, Mo. Claims use since August 23, 1933.

Prolax - This for antiseptic hand soap. Filed May 13, 1953 by C. B. Dolge Co., Westport, Conn.

(Turn to Page 103)

Your products can stay fresh longer!







Stability Tests After 52 Weeks Warehouse Storage Prove Armour's Double Pressed-Type Stearic Acid Gives Extra Life to Products, More Profits for You!

Armour's double pressed-type stearic acid, Neo-Fat® 18-54, insures longer life for your products because of its exceptional color and heat stability through all phases of production and storage. In fact, peroxide indices of Neo-Fat 18-54, taken immediately after production, and periodically during 25 weeks' warehouse storage, showed values of less than 0.1%! To substantiate this, samples of shipments sent to customers over a year ago were recently recalled to measure the peroxide value. Results again show less than 0.1%. This stability means that soaps, shaving creams, cosmetics, pharmaceutical preparations, and other products made with Neo-Fat 18-54 will stay fresh through shelf-life and consumer use.

Armour produces this superior double pressed-type stearic acid by an exclusive low temperature solvent crystallization process. Since the solvent is non-reactive with the fatty acid, Neo-Fat 18-54 becomes an ester-free material containing the good color, stability and uniformity so important in manufacturing your products.

Neo-Fat 18-54 is packaged in flat-lying, easily handled 50-pound multiwall bags which can be palletized as high as 3 skids. Write Armour for booklet, samples, or trial 50-pound bag of Neo-Fat 18-54!



ARMOUR CHEMICAL DIVISION

Armour and Company . 1355 W. 31st St. . Chicago 9, III.









Sturdy new open-head drum ships, handles and stores better under all conditions; improved recessed-head ring lock grips tighter, opens and closes more easily and with greater safety.

NOW — DOW CAUSTIC SODA in a new FULL OPEN-HEAD DRUMwith superior shipping, handling and storage features

Dow caustic soda flake and ground flake is available today in a new full open-head drum, designed and manufactured exclusively by The Dow Chemical Company. Stronger and easier to handle, this drum's unique construction makes long-preferred Dow caustic an even better buy.

This sturdy premium drum features an exclusive recessedhead ring lock that reduces damage in shipping and handling, saves space in storage. The smooth outer surface prevents climbing or riding during transit. The swedged-in head design, another exclusive feature, assures all the advantages of open-head construction without the drawbacks experienced with other drums of this general type.

Available on request at a slightly increased cost from all Dow terminals, warehouses and plants, this drum is demonstrably the best shipper and storage container in the caustic field. Added to Dow caustic's uniform high quality and dependably prompt delivery from all plants and distribution terminals, this superior new drum presents one *more* good reason for placing your order with Dow. The DOW CHEMICAL COMPANY, Midland, Michigan.

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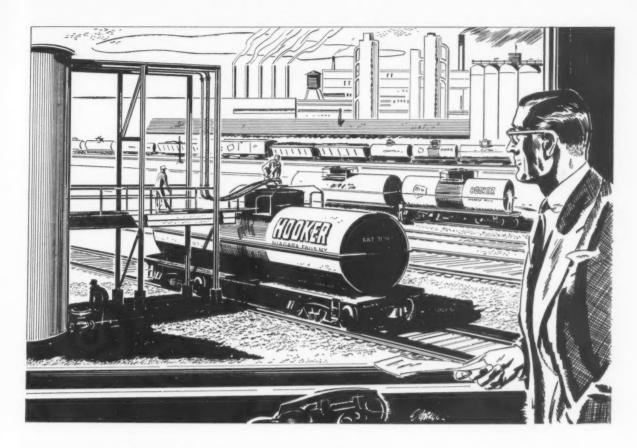
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You need never adjust your process to meet variations in caustic soda shipments. You can be sure each new shipment closely matches your current inventory.

Uniformity, from shipment to shipment, is the result of close quality checking at Hooker. More than a score of inspections and analyses safeguard the uniformity of the Hooker caustic you buy.

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If you do, a letter or a phone call to the nearest Hooker plant or office will quickly bring you the product data and other facts you need to make your decision.

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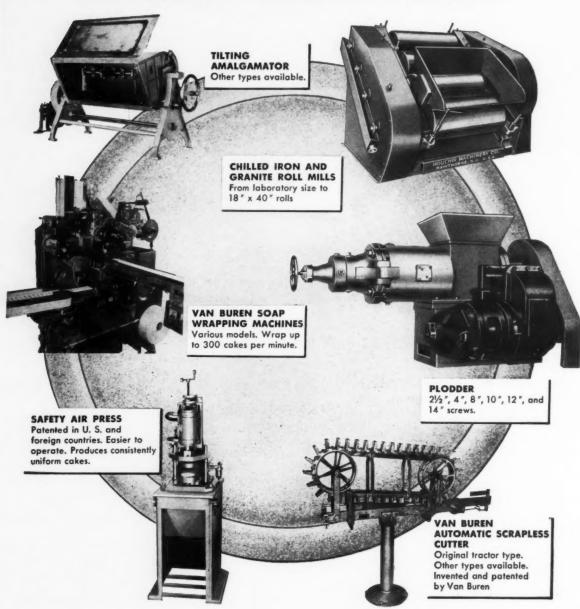
Company

Address.

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Houchin soap making machines include every machine required for modern soap manufacture. Available individually or in complete production ranges.

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Manufacturers of Soap Making Machinery for over a Century

Production SECTION

Soap Cost Accounting

SOAP or synthetic detergent company can organize its record work to do two very important things:

 Tell how much money is being made or lost, and where it is being made or lost, and

2. Provide data for use in controlling operations, i.e., (a) how does the money actually spent compare with what should have been spent for the conditions under which the factory had to operate? (b) how do quantities of materials used, yields, scrap, etc., compare with accepted standards of operation?

In the first place, whomever you choose to be in charge of cost accounting should be something more than a bookkeeper, something more than a public accountant with a C.P.A. degree, and something more perhaps than a cost accountant who has worked in a foundry or machine shop. He should be of sufficient stature to be a part of your top supervisory factory group. Your cost accountant should not only be on speaking terms with the techniques of cost accounting in a process industry, but should have more than a superficial knowledge of factory operations. It is one thing to collect facts, and another to interpret them correctly, hence the need for factory as well as accounting knowledge.

Another very important decision by the management is the willingness to show the facts of the business as they actually exist without being distorted by tax expediency in handling costs or being in-

By W. I. McNeill*

fluenced by the opinions of anyone in the organization not qualified to judge. It is surprising how many individuals in an organization feel qualified to tell the cost accountant how to run his job. Your cost accountant must be independent enough to resist pressures to show results other than those which are representative of actual operations. Preferably, your cost accountant should not report to the person in charge of manufacturing. The cost accountant is, so to speak, an independent auditor of business facts for the president or controller. A person cannot very well audit his boss if his boss be in charge of the operations that are being accounted for.

Now how should a cost accountant begin to set up a cost system to give the facts of operation as they relate to profitability and performance without getting tangled up in a lot of red tape? His approach to the problem should be in somewhat the following sequence:

- Take a walk through the plant with the plant superintendent to get a bird's eye view of operations.
- Have simple flow charts prepared to show the movement of materials and products through the plant by operation. Indicate where products accumulate in inventories.
- 3. Show on these flow charts the major items of equipment used in each operation.
- List the products which use each major piece of equipment.
- 5. Based on these facts, estab-

lish a list of process centers, or departments, for which you would like to have an accumulation of costs, and arrange to collect expenses of all kinds by these process centers.

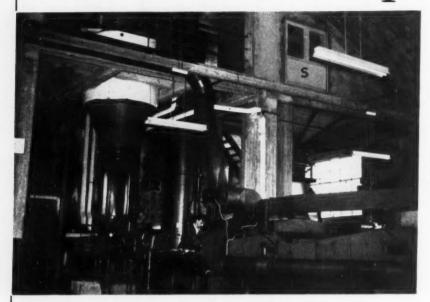
- Determine a basis for distributing the cost of service centers to production centers, and the total cost of production centers to products.
- Arrange for collecting labor costs by process center, by operation and by product.
- Arrange for assembly of batch reports as a means of measuring, in quantity, the balance between material input and material output.
- Assemble this data into builtup costs product.
- 10. Determine standards for different levels of operation by which actual expenses for each process center may be compared with what should have been spent under the conditions under which the plant had to operate.
- Decide on a policy for pricing inventories in preparing monthly financial statements.

The frequency of cost calculation is dependent on the usefulness of the results.

I have assumed that you are more interested in how a good cost system can help to improve profits than you are in a technical discussion of different methods of pricing inventories, obtaining rates of depreciation, or organizing the collection and assembly of cost information. Suffice to say that the average cost department will be organized to handle records of materials received and used, pay-

^{*}Paper presented at 27th annual meeting Association American Soap & Glycerine Producers, New York, Jan. 28, 1954.

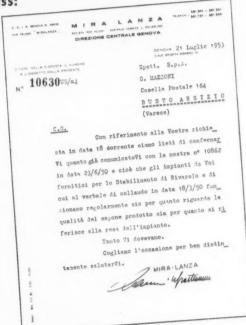
Continuous Soap Plants



Photograph of a MAZZONI soap plant automatically producing one ton of household or toilet soap per hour, "S" is the silo for the storace of the dried soap rocks, From the silo the reds are then passed through a line of finishing machinery for milled toilet soap cakes.

Advantages of the MAZZONI Process:

- * Small plant space; only one operator needed.
- ★ Saves 70% in steam, 50% labor, 40% electric power.
- ★ Operates at low temperature, avoiding deterioration of soap.
- ★ Vacuum process gives better toilet soaps. Deodorizing effect reduces perfume needs. Smoother, grit-free cakes which wash off evenly. Improved lathering. Automatic perfuming device included.
- ★ Complete installations (mixers, mills, plodders, cutters and stampers) for milled toilet soap and soap flakes.
- ★ Since 1945 more than 70 plants have been installed in different countries of the world.
- ★ Laundry soaps, pure or filled, ready for pressing and immediate packing without slabbing, cutting, etc.
- ★ Suitable for adaptation in any soap factory, — a compact, low-cost vacuum process, continuous from neat soap to pressing and wrapping.
- ★ Plants for outputs of half-ton, one ton, two tons, three tons or higher per hour.



For further detailed information, write to

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Busto Arsizio, (Varese) Italy

Cable address: Cosmazzoni, Busto Arsizio

roll and labor distribution records, records of buildings, machinery, and equipment, records of expenses and distribution to costs, assembly of cost data, economical systems, methods, and analyses of costs for management.

Attention is now directed to the two most useful products of a cost system mentioned in the beginning, namely:

- 1. Profitability of each product or product group;
- 2. Data for use in controlling operations.
 - a. Measurement of performance: actual costs vs. standard costs.
 - b. Comparison of yields, scrap, etc., with standards.

First let us look for a few moments at the determination of product profitability through the calculation of net profit before taxes.

How about net profit—is it "profit nonsense" as termed by the writer of an article on the subject, or does it serve a useful purpose?

Every manager of an enterprise is eager to know his net profit in total, but someone may ask, "Why bother to break it down into net profit by branches, by product group, or by individual products? You have to make a lot of arbitrary pro-rations that may or may not be meaningful, and what can you do with it after you get it"?

The consideration of this problem should be approached from two points of view; namely, (1) the collection of historical facts and (2) the interpretation of those facts in terms of management problems.

First, let me state my conclusion in the beginning; namely, that in my opinion statistical net profit is an indispensable tool of management for judging the profitability of individual products, product groups, or sales branches or territories, and, if you please, it is indispensable in appraising selling prices.

A discussion of the prob-

lem leads immediately to a basic concept; namely, that every dollar that a company spends must find its way eventually into the cost of one of the company's products. The determination of net profit through the absorption of all dollars spent is the safest way of notifying the management of products or branches that are not producing a satisfactory return.

Someone may say, "But gross profit gives us a good idea of profitability, doesn't it"? The answer is "yes" if the proportion of distribution, selling, and general and administrative expense is the same for each product in all locations, and "no" if it is different. If freight, warehousing, selling, advertising, research, and development, and other similar expenses, all together cost twice as much for one product as for another, someone might like to know about it.

For instance, if on two products the gross profit is exactly the same, let us say \$.50 each, one item might easily show a net loss due to high advertising costs, and the other a profit.

Too often it has been proven that the failure to go through the mathematical discipline of making every dollar come out on each product has resulted in the failure to acquaint oneself with the real facts. Dollars spent have a way of secreting themselves and are easily overlooked.

It is, therefore, considered good discipline for any management to have to look at a statistical statement in which every dollar is accounted for. Such a statement is often revealing and sometimes startling.

Having prepared a statement of historical costs, what are some of the business problems for which such statements can be used?

A few of the most important problems in any business are:

 What to do with unprofitable individual products or product groups.

- 2. What to do with unprofitable sales branches or territories.
- Advisability of changing the selling price of an old product.
- 4. Determination of selling price of a new product.

In attempting the solution of any specific problem, the real test of business judgment comes in attempting to interpret the facts. The decision will always rest on the answer to the following question: What will be the effect on the net profit of the company over a period of years, i.e., will there be more dollars of net profit over a period of time by one decision than there will be by another?

While net profit statements are most useful, they should be supplemented by statements breaking costs down into fixed and variable cost components in order to solve certain problems; for example, in determining whether it is more profitable to expand sales of one item over another. In such a problem one can easily prove that the product which absorbs the most fixed overhead is likely to yield the most profit for the company.

One could devote considerably more time to explaining the application of cost data to the solution of the problems enumerated above as well as others; but there is another most important use of cost data, namely for use in controlling factory operations, or, in other words, measuring factory performance.

Factory performance, for a given process center or for the plant as a whole, may be defined as the ratio of standard dollars that should have been spent for the conditions under which the factory had to operate compared with the actual dollars spent.

The derivation of industrial engineered standards for material usages, labor, and various items of expense and their comparison with actual money spent can have a most important effect on profits.

It is a commonly accepted fact that whenever engineered standards are introduced in any

Cosmetic Manufacturers





For creme and paste shampoos . . .

SODIUM LAURYL SULFATE from Rohm & Hags

Full-scale production of Sodium Lauryl Sulfate was started during February. It is now available in drum and tank-car quantities. Samples and complete technical data will be sent on request for both grades offered: Triton AS-35 (paste) and low-salt Triton AS-30 (liquid).

These detergents are manufactured under close chemical supervision from fatty alcohols produced in our own plants. Every lot of TRITON AS-30 and TRITON AS-35

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that is delivered to your plant—whether one drum or a tank car—will meet your rigid standards for purity and uniformity. Use the coupon attached below for complete information.

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Send me technical data and samples of:

TRITON AS-30 TRITON AS-35

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	TRITON AS-30 (low-salt liquid)	TRITON AS-35 (paste)
Active Ingredient	28-30%	28-30%
Free fatty alcohol	1.0-2.5%	1.0-3.0%
NaCl	0.5% max.	2.0% max.
Na ₂ SO ₄	1.5% max.	2.0% max.
pH at 5% active	7.0-8.5	7.0-8.5
Color, VCS	2 max.	2 max.
Iron, ppm	7.5 max.	7.5 max.
	Marie Control	



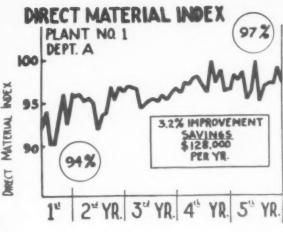


CHART 2

factory, one may expect to find the percentage of labor performance under 50 per cent. This is usually the case even for plants considered to be well supervised. This leaves plenty of room for savings. What is true of labor is even more true of materials which, in the soap business, make up a considerable part of cost. The comparison of standard vs. actual cost for material usages, yield, wasteages, scrap, etc., can have a material effect on profits.

It is, however, necessary that there be sufficient faith in such a program in the minds of management to give the work at least one year in which to begin to prove its worth. What management would not spend \$1 to make \$10?

The charts accompanying this article will show some actual results obtained by a chemical plant after they got their supervision more cost-conscious and got their various departments coordinated to achieve certain cost reduction goals.

Chart 1 shows typical actual plant savings by months as a cost control installation progresses.

These and other saving are on what accounting departments would call an "out-of-pocket" savings basis. That is they do not include fixed overhead or other apportioned costs.

The cost shown is typical of the added cost of setting up and administering a cost control plan, which runs about one-half of one percent of the sale dollar in a typical chemical industry. This cost includes design of the plan, establishment and maintenance of standards, issuance of reports, analyzing of variances, making methods studies, issuance of written standard practices, and related activities.

You will notice that the savings usually increase year by year as more departments are placed on cost control standards and as the effect of the changes continue to accumulate.

During the first year, when the plan is being designed and the standards are being established, quite frequently very few savings are made, and the program may be practically a total liability.

During the following years the results begin to show up, and savings should continue to accrue at an accelerating rate.

After two years of operation, the monthly savings, in this typical case, are four times the monthly cost; after three years of operation—nine times the monthly cost; after four years of operation—20 times the monthly cost.

By the end of the fourth year, the accumulated monthly savings, in this case, are at the rate of \$130,000 per month, or \$1,500,-000 per year.

Because of the high value of materials, improvement in use of materials or yield of product can result in large dollar savings, even though the percentage increase is smaller. See Chart 2.

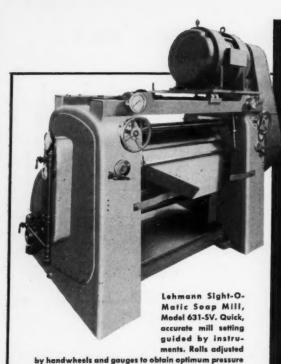
In a chemical industry, savings of this type can usually be made in your production departments by:

- Increased attention to low yields and poor material utilization.
- (2) More effective staff assistance in analyzing and correcting the causes of losses.
- (3) Reduction of many batch formulation losses due to:
 - (a) Use of excess material.
 - (b) Use of higher quality material than necessary.
 - (c) Use of material in more expensive form.
- (4) Reduction in mechanical losses such as:
 - (a) Spillage, and other losses in mixing, grinding, packing, etc.

Further material savings can usually be made by:

(5) Changes in an ineffective building technical control organization when this is necessary to get better quality control during the processing operations.

(Turn to Page 178)



levels for feed and take-off rolls quickly. Accurate pneumatic setting of take-off knife accomplished by handle and gauge. Cooling water regulated by dial thermometers, resulting in production sawings. This instrumentation facilitates quality control and reduces



Lehmann 912-SA Five Roll Finishing Mill

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LEHMANN SOAP FINISHING MACHINES for profitable production

Lehmann Soap Finishing Machines offer manufacturers opportunities for substantial reduction in production costs—essential in these days of increasing competition. One unit particularly, the new Sight-O-Matic Soap Mill, gives the manufacturers of toilet soap and soap flakes a piece of equipment that can have marked effect in lowering costs, by minimizing the human element in mill operation.

Under today's high wage standards, man power is an expensive commodity. Make the most of it by supplementing it with the most efficient labor-saving machinery it is possible to obtain. Send for descriptive bulletin of any of the machines shown on this page.

If you are not ready for new equipment, examine the advisability of a thorough factory reconditioning of manufacturing units that are still capable of efficient production. Ask us about Lehmann Certified Factory Reconditioning.

If you make, or are planning to make, detergent soap bars, get in touch with us before assigning present machines or ordering new units for such processing.



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Properties of Soap Deodorizing Agents

NTISEPTICS intended for in-A corporation in soaps as deodorizing agents must be water-insoluble or, at least, hard to dissolve in water. A water soluble ingredient would be rinsed off and lost along with the soap during the washing and rinsing process. Any pathogenic organisms present on the skin at the time of washing would be thus killed or impaired. But whatever traces of a water-soluble antiseptic might be left on the skin after washing would be insufficient to affect any microorganisms settling there after an hour or longer.

Where compounds of low water solubility are used the situation is entirely different. They are solubilized by soap sufficiently to be well and evenly incorporated in the soap charge. During the actual washing process, and even more during the rinsing, the soap is diluted by water. Out of this soap solution part of the antiseptic is precipitated onto the skin, and, being lipophilic, combines with the skin fat. A certain proportion of the compound is, of course, rinsed off with the soap lather and lost. But the disinfectant retained on the skin suffices to inhibit germs and fungi over a period ranging up to several days. The use of a not readily water-soluble germicide in soap results in lasting ormore accurately-in residual deodorization. The deodorizing agent, instead of being rinsed off, is fixed on the skin.

Since these antiseptic agents are attracted by the fat present on the skin the addition of an oily compound to such soap suggests itself. The presence of excess fat reduces the emulsifying power of the soap, already much diluted in the rinsing process, sufficiently to readily release the agent.

Judiciously selected, such an oily addition can do more than break the emulsifying power of the soap. If it is readily absorbed by the skin it acts as a vehicle which carries the dissolved germicide onto the skin. For this purpose distilled and re-

fined deodorized sperm oil is recommended. The processed sperm oil consists almost exclusively of unsaturated oleyl oleate which does not undergo any changes when incorporated in soap, owing to its stable ester grouping. Surprisingly large amounts of this oil can be added without impairing the foaming power of the soap, particularly in the presence of certain jelling agents. Small amounts of cetyl alcohol or glycerine monostearate are beneficial, while larger amounts of such emulsifiers would naturally cause the antiseptic to be washed or rinsed off with the soap. The same considerations apply to thickening agents.

In practice, three percent of the treated sperm oil are easily worked into the soap charge. This percentage does not suffice completely to dissolve an addition of two to four percent of germicide. It does dissolve part of the germicide, carry it and fix it on the skin. Incorporating as much as 10 percent of treated sperm oil reduces foaming power less than anticipated, nor would there be difficulties in processing and the skin would benefit.

Although antiseptics based on halogenated phenols have a wide spectrum of anti-bacterial and antifungal activity, combinations of antiseptics are worth considering.

The deodorizing action of chlorophyll differs from that of the antiseptics. Chlorophyll could enforce and complement the effect of the latter. In an oil-soluble form it should be dissolved in the deodorized sperm oil before incorporation in the soap charge. Used in this manner it would, like the antiseptics, be precipitated on the skin for prolonged action. J. Augustin, Scifen-Oele-Fette-Wachse, 1954, No. 5, p. 114.

Changes Glycerol Test

Three resolutions regarding test methods for glycerol were approved last month by the Uniform Methods Committee of the American Oil Chemists' Society:

- The Acetin Method for Glycerol, Ea 4-38, shall be removed from A.O.C.S. Official Methods.
- The Dichromate Method for Glycerol, Ea 5-38, shall be removed from A.O.C.S. Official Methods.
- 3. The Sodium Periodate Method for Glycerol, Ea 6-51, shall be retained as the only A.O.S.C. Official Method for Glycerol, by chemical analysis, with minor changes in this method (available on request).

The Sodium Periodate Method is now generally considered to be the most reliable and simple way of determining glycerol in undistilled crude glycerine which is necessary in commercial transactions. As time goes on commercial transactions will probably be shifted by individual companies to the new analytical method.

In general, the Sodium Periodate Method indicates a slightly higher level of glycerol content than the Acetin Method for normal crudes, but in poor crudes high in impurities, such as trimethylene glycol, the Sodium Periodate Method more accurately reflects the true glycerol content and will show a lower level than the Acetin Method.

Tests are taking place in Europe, which may lead to the adoption of this, or a very similar, Sodium Periodate Method test there.

SIMPHE to Hold Exhibit

The Society of Industrial Packaging and Materials Handling Engineers will hold its annual convention in Chicago September 28-30. An exposition in the Chicago Coliseum will be part of the event. A short course on the fundamentals of materials handling and packaging, co-sponsored by SIMPHE and the University of Illinois, will be held under the chairmanship of Walter J. Byrd, Standard Brands, Inc., New York. Over 300 entries have been received for the 1954 National Protective Packaging and Materials Handling Competition which is to round out the meeting.



LOOK at the sales advantages offered your product by G-11°

(Brand of Hexachlorophene)

The market for products containing G-11 is an established, growing market with virtually unlimited opportunities for profitable development.

Few products have ever been studied so exhaustively and given such unanimous acclaim by authorities. G-11 is recognized as the proven, effective and non-irritating antiseptic chemical that offers outstanding hygienic and deodorizing advantages.

Years of safe, successful use by millions of people assure the continued success of your products containing G-11.

As the originator and producer of G-11, Sindar offers you the benefits of its scientific knowledge, practical marketing experience and technical service in using it to the best advantage in your soaps, detergents and cosmetics.

Bulletins are available on:

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PRODUCTION Clinic

By E. G. Thomssen, Ph.D.

ATER must be regarded as an industrial commodity of major importance, both as product ingredient and as processing agent in such operations as cooling and cleaning. Water may be treated by various means to adapt it for the purpose at hand and various measures can be adopted by the manufacturer to reduce the volume of consumption.

The public water supply is neither uniform nor free of impurities. In the autumn it picks up color and extracts from decaying leaves present in the reservoirs. Silt and other impurities are washed into the supply by swollen streams and melting snow during spring and summer. Lime, magnesia, and iron make it hard and its pH is far from constant. Filtering, settling, and softening suffice for some purposes. Deionization or distillation are indicated where pure and uniform water supply is of importance.

Removal of gross and filterable impurities is most effectively performed by filtering or settling. Coagulants or softeners may be added before filtering. The choice of filter is determined by wearing qualities, size, capacity, and cost. The choice of filter media is determined by the nature and desired qualities of the final product. Ceramics, synthetic and natural fibers, fine metal screens, asbestos, and paper in various forms are among the porous materials used for this purpose. Frequently filter aids are added to improve clarity. The water may be fed through the filter by pressure, vacuum, or gravity.

The most commonly employed water softening agent is "Permutit" or green sand. The use of softened water in chemical and allied manufacturing frequently results in economies in the use of other product ingredients. Because soft

water does not form corrosive scale its use leads to reduced plumber's bills; when used in hot water or



DR. THOMSSEN

steam generating systems it will cut the fuel bill.

A still is required to make distilled water and an ion exchange resin unit to make synthetically distilled water. Distillation is a far more costly process than deionization but results in a purer product. However, for most processing needs deionized water is sufficiently pure. For this reason the installation of stills has been greatly curtailed in favor of deionizers. Laboratory units of the latter which employ cartridges and deionize as little as five gallons of water per hour are available for laboratories and small plants.

In larger plants various methods of economy in the volume of water consumption may be employed. Westinghouse Electric Corp. has, according to "Power" magazine, set up the following fivepoint water conservation program:

1.-Run a plant survey and find out where the water is going. Install meters for departments that are big users.

2.-Establish a program to make everybody water conscious. Post signs to get workers looking for leaks.

3.-Put in self-contained regulating valves, automatic shut-offs, recirculating pumps.

4.—Install cooling towers to allow wide reuse of water in various plant services. This will cost a lot and is usually applicable only to large plants.

5.—Set up a policing system. Keep checking regularly to keep up good water habits.

Careful and intelligent use of water is one of the ways by which efficient management can partially offset the rising cost of production.

Bin Level Detector

IN-DICATOR CO., Detroit, recently issued a catalog describing its line of pressure actuated bin level detectors for use with granular, pulverized and semi-liquid materials stored in tanks, silos, hoppers, and bins. These units may be used to actuate visual or audible signals at the place of installation or at some remote point. Frequently they are employed to stop and start loading and filling machinery.

All units operate through the pressure of the stored material against a flexible diaphragm linked to a simple counterweight. Diaphragms are available in cloth, rubber, "Neoprene" with cloth interlining, "Fiberglas", and several thicknesses of asbestos cloth. Economy in purchase and upkeep, ease of installation, and reliability are claimed for these bin level detectors.

"Visi-Tabs" For Pipe Lines

NEW lightweight blinds and spacer rings for use in process pipe lines and for pipe line testing were introduced recently by Engineering Corp., of America, Westfield, N.J., under the trade name "Visi-Tabs". The units extend beyond the pipe banges and blinds and rings are readily distinguished. In addition, the blinds carry blank disks at the end of the tab while the spacer rings have an open ring at the end, which is an improvement over the usual



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(Italy) BUSTO ARSIZIO

PATENTED Cooling Extruder Type SAIX for the continuous chilling and finishing of every kind of laundry soap, with 62%, 52% as well as with a T.F.M. content as low as 35%, either from full boiled kettle soap or from soap pads by a continuous process.

From the saponification (molten hot soap) to the finished bars (cold solid soap) in a single stage without any interruption or structural change. In this plant, completed by a preliminary evaporator of the

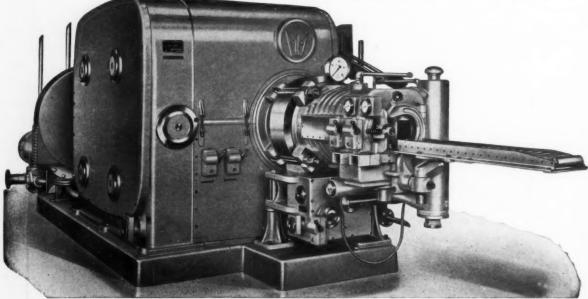


SAIX/TU

molten hot soap, it is possible to manufacture 72-73% T.F.M., soaps with an opaque, translucent or transparent appearance. The soap is continuously formed in bars of every desired size or in pellets for further milling procedure.

In this plant it also is possible to manufacture conventional or transparent toilet soaps without any formation of hard spots.

Type SAIX/1c, capacity HALF TON per hour. Type SAIX/2c, capacity ONE TON per hour. Type SAIX/4c, capacity TWO TON per hour.



PATENTED COOLING EXTRUDER Type SAIX/4c

stamped lettering which becomes easily obscured, "Visi-Tabs" require little space and are suitable for locations where pipelines run close together.

Mineral Filler

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THE laboratory facilities of Johns Manville Corp., New York, are at the service of manufacturers interested in fields where "Celite" diatomite mineral filler may be needed. The product combines high absorptive capacity with lightness and good bulking property. Diatomaceous material of this type is suitable for use in polishes as a soft and non-scratching abras-

Letters . . .

(From Page 37)

they actually behave like nonionics (Miranol M Series). Most certainly Mr. Neu is not speaking for all amphoterics.

It appears to us that alkylpolyaminoethlyglycenates, having been patented to I.-G. Farbenindustrie A.G. in 1930's were considered to be of little commercial value since they were never produced on any but experimental scale. We share this opinion in view of the fact that in these products the cationic properties exceed the anionic properties. Therefor, their detergent properties are low, rinsability is not good and they have a tendency to exhaust on fibres and plate out on impermeable surfaces and are not too readily removed. Ester formation with anionics apears likely. Polyglycinates of this type have a tendency to form internal esters. Mr. Neu seems to allude to this in his statement: "Incorporation in a soap bar is superior to a solution of the active constituents." Furthermore, he states that his particular compounds are attracted to negatively charged fibres and hair but it seems perfectly obvious that a compound which is attracted and thereby withdrawn from solution cannot have very good detergent properties.

As to the disinfectant proper-

ties of the particular products Mr. Neu describes, they hardly seem impressive. While no orthodox phenol coefficient determination is shown, by interpolation of the figures given the phenol coefficient is not in excess of 2 on a 100% active basis. Comparing this with a quaternary germicide with a phenol coefficient of 250 to 400 depending on the organism, we doubt whether these germicides could be 125 to 200 times as toxic or as irritating as Mr. Neu's products. Their incorporation in soap also does not produce any startling results. Phenol coefficient appears to be 0.15 to 0.05. There are many germicides available suitable for incorporation in soap, which in lesser concentration and with lower cost produce far higher phenol coefficients, without creating toxicity or irritation hazards.

It has been well established that prevention of redeposition of soil can be increased by raising the viscosity of cleaning solutions, preferably with compounds whose micelle size is almost in the colloidal stage. Such a semisoluble colloid is apparently formed by esterification of Mr. Neu's products with anionics, and while the soil carrying properties are increased, actual detergent properties are decreased, because a molecular equivalent of the anionic product is withdrawn through reaction. We wonder why 5% poly (aminoethyl) aminoacetic acid should be aded to soap or other anionics if the same results can be achieved with 1.2% CMC at probably 1/10 of the cost.

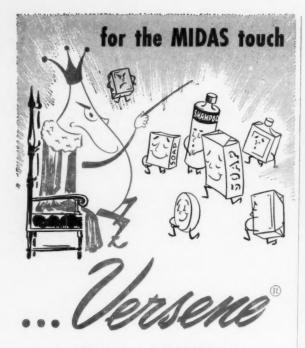
In order to determine the suitability of any product for cosmetic use it must pass rigid tests for irritation to skin and eyes. Products exhibiting decided cationic properties must be especially carefully tested. While Mr. Neu suggests the incorporation of his products into anionics he implies, but does not claim, lower irritation. The formulation of a soap with more tallow, as he suggests, improves the mildness of any soap, although not the foaming properties. We further

note that he describes them as harmless to hands, hair and scalp. It may be an oversight that he writes nothing regarding eye irritation and opacification. It seems, however, strange in view of the fact that this feature has had the diligent attention of the cosmetic industry for a number of years.

Regarding the use of these products in the dairy and food industry it apears that either nonionics or products acting like nonionics in combination with quaternaries can achieve the described results at very low cost. It seems rather farfetched to use a 1% solution of Mr. Neu's product at an estimated cost of about 70-80¢ on a 100% basis. While he has not stated that his products foam well, they do foam. We would be curious to know how he expects to rinse the foam out of the beverage and milk bottles after they are washed with the suggested 1% solution.

In reviewing the above it seems to us that alkylpolyamineoethylgylcines can do a number of things but none of them very well. Certainly nothing has been shown that other products could not do better and at lower cost. No product can stand on the dubious distinction alone of being amphoteric. The fact that it is an amphoteric can add desirable features, but first and last it must show one, but preferably more distinctive properties that raise it above other surfactants economically as well as performance-wise under equal application conditions, or it must be able improve other products by its addition to that same extent.

We believe that we have developed an outstanding group of amphoteric surfactants in our Miranol M Series (see H.L. Sanders, Surfactant Performance, December 1951 issue, Soap & Sanitary Chemicals), carefully balanced products in which neither the cationic nor the anionic properties predominate so that they behave like nonionics, which are compatible without any any reaction with all anionic or cationic surfactants throughout the entire pH range and are incapable



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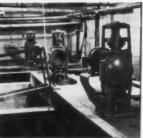
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of internal reaction (ester formation). They have exceptional detergent and wetting properties, can tolerate in solution incredible amounts of alkalies and electrolytes, have the highest chemical stability, and are non-toxic and non-irritating to skin and eyes and are the outstanding foamer on the market today.

In a parallel development the Antara Division of General Aniline & Film Co. has developed outstanding products for textile application of which "Antaron F C 34" is now commercially available.

Such properties are not achieved through the indiscriminate presence of cationic and anionic groups as we have learned through many years of research. In the light of this we feel that the products Mr. Neu describes are not very impressive.

Hans S. Mannheimer, president Miranol Chemical Co. Irvington, N. J.

New Bartelt Filler

A new filler for liquids, powders, and viscous materials was introduced recently by Bartelt Engineering Co., Rockford, Ill. The unit makes up to 150 fills per min-

Bartelt Filler



ute and is said to hold filling tolerances to within plus or minus one percent. Special features of the filler include machine tool type low friction motor; timing with a positive mechanical revolution control counter; spun stainless steel hopper with quick-release clamps for easy cleaning; extensive range of easily interchangeable feeder toolings. Detailed information on the new Bartelt filler is available upon request to the company.

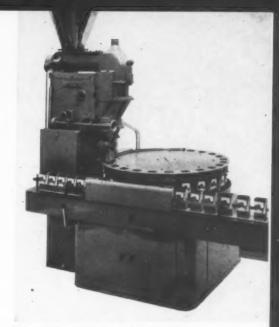
New High Speed Filler

A new high speed automatic filler especially designed for non-free flowing powders was introduced recently by Geveke & Co., New York, exclusive agents in the United States for Hesser A. G., Stuttgart, Germany, maker of the machine.

The filler features a hydraulic vibrating mechanism which settles hygroscopic and fatty non-free flowing powder materials. A specially designed auger, accessible for cleaning, fills at the rate of 50-70 per minute and maintains close weight tolerances to plus or minus one quarter of one percent. A simply constructed exhaust duct assembly is designed to provide dustless operation. The entire unit occupies a floor space of 20 square feet. The machine is capable of packaging all kinds of hygroscopic and fatty products in quantities of from four ounces to two pounds, requiring a half hour for the changeover from one size to another. Constructed on a single cast frame the unit is said to operate without vibration. It can be operated with a motor of 21/2 to three horsepower.

Volumetric Filling Aid

A new volumetric attachment suitable for installment on any liquid filling machine, (gravity, vacuum, or volumetric) was announced recently by MRM Co., Brooklyn. The device is said to be accurate in filling at high speeds to within a tolerance of plus or minus one gram. Close control is of particular importance in the filling of aerosol containers, to prevent waste of propellents.



New high speed filler for non free-flowing powders.

The unit consists of filling heads adjustable for variation of fill by means of threaded cylinders. These receptacles are first filled through a special valve to the specified amount for each container and are then discharged automatically into the containers.

New MRM volumetric attachment for liquid filling machines.



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And there's still more! There's this matter of all the practical knowledge about soaps, scouring powders, water conditioning, detergent usage, etc. that Victor has developed through the years. Victor customers get that, too. If you haven't tried the combination of Victor products plus Victor service on *your* process or product problems, then you're in for a pleasant surprise. It's the combination that has led so many wise buyers to say . . . "It's better to buy Victor."

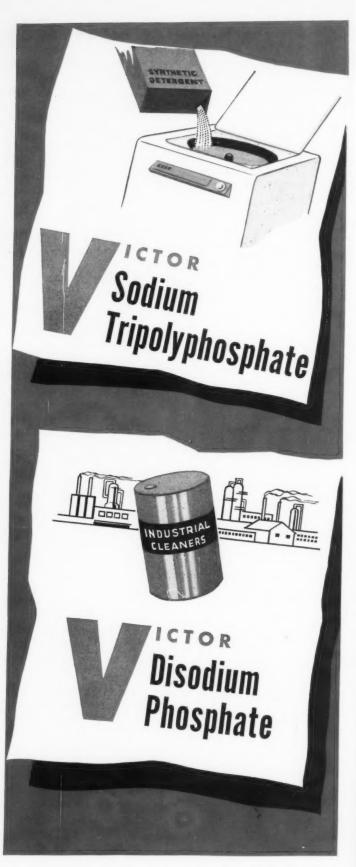


PHOSPHORUS PHOSPHATES

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ORGANOPHOSPHORUS COMPOUNDS



Products and PROCESSES

Superfatted Soap

A superfatted soap containing a hard-to-saponify fraction of wool fat is the subject of a recently issued German patent. The wool fat has previously been freed from more easily saponified components. German patent 825,117, Eryk A. Kollontay, Weinbach St. Wolfgang, Austria.

Metaldehyde Pesticide

To make a pest control preparation metaldehyde is mixed with a major proportion of a non-fatty animal foodstuff such as middlings, bran or finings. This combination is added to an aqueous solution of a mucilaginous material such as acacia gum. The product is mixed further, partially dried and in this state formed into tablets. Waxes or a starchy material may also be added. British patent 619,705, Ashe Laboratories Ltd., and M. D. Price.

Lecithin Soap

Lecithin soap is made by adding to a comparatively dry soap mass, made by rapid saponification method, a saturated stable lecithin compound such as lecithin formal-dehyde or another lecithin-aldehyde or lecithin-ester combination in the form of a homogeneous emulsion. German patent 855,445 to Dr. Heinrich Carl Buer, Koeln-Marienburg, Germany.

Soap Containing Solvent

A soap containing a solvent comprises soap and/or detergent and hexahydrobenzyl alcohol and/or its homologs, German patent 856,-186, Deutsche Hydrierwerke A. G., Duesseldorf, Germany.

Quaternary Bactericide

Bactericidal activity of (diisobutylphenoxyethoxy) dimethylbenzylammonium chloride was evaluated by the conventional F.D.A. phenol coefficient method. This

yielded coefficients ranging from 7.14 to 142.8 with an average of 52 based on tests with 10 microorganisms. A three-minute exposure of surgical instruments contaminated with Staphylococcus aureus to the quaternary gave complete removal or destruction of viable cells. Employed without soap neutralization the quaternary gave a 99.91 percent reduction of microorganisms on the hands in a four minute pre-surgical scrub. Howard L. Mills and Harold G. Hedrick (Marshall College, Huntington), Procedures West. Va. Acad. Sci. 24,45-53 (1952); in West Va. Univ. Bull. Ser. 53, No. 12-2 (1953), through Chem. Abstracts, vol. 48, p. 4051.

Phenol Disinfectants

Mixtures of phenol (90 percent aqueous) and formaldehyde (40 percent aqueous) with additions of surface-tension-lowering fatty alcohol sulfonates and odor masking agents can be made up as disinfectants which are claimed to be effective against tuberculosis and other bacilli. Swiss patent 285,294, 1952, Sinfre S.A., Switzerland.

German Bacteriostat

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The German bacteriostatic agent "Raluben" is used in cosmetics and soaps to impart disinfectant and deodorizing properties. The compound is based on halogenated phenols and is claimed to be highly effective against Staphylococcus aureus, bacteria coli, typhi, and especially against hymenomycetes, while being practically non-toxic and non-irritant to the eyes and skin. "Raluben" is a yellowishwhite powder with little odor, soluble in 96 percent ethyl alcohol and in methyl alcohol to about 12 percent by weight if heat is applied, in acetic acid ethyl ester and methyl ester to about 30 percent by weight. The product is said to dissolve easily in fats and oils.

For incorporation in fine

toilet, shaving, curd and laundry soaps, shampoos, and soap powder three percent of "Raluben" is recommended. This is said to have no effect on the perfume present in the soap product. The same percentage is suitable also for addition to coldstirred soaps. One percent may be added to liquid soaps. "Raluben" does not always dissolve uniformly in synthetic liquid soaps (cationic soaps, fatty alcohol sulfonates) and should therefore be mixed with the concentrated product, and the mixture diluted afterwards. For shaving creams one half to one percent is said to be sufficient and one percent is recommended for scouring powders. "Raluben" is made by Dr. F. Raschig G.M.B.H., Ludwigshafen, Germany.

Two New "Makanols"

"Makanols 8" and "9" are two new highly unsaturated long chain fatty alcohols introduced recently by Stepan Chemical Co., Chicago. Among suggested uses for these new products is the manufacture of quaternary ammonium germicides and they are said to show promise as lubricating oil additives. "Makanol 8" is a blend of higher fatty alcohols derived through the sodium reduction of soybean oil and has a total unsaturated alcohol content of 88 percent. "Makanol 9" is derived from linseed oil, its unsaturated alcohol content is 91 percent. Detailed specifications and other pertinent information can be obtained by writing to Stepan.

Trade Marks

(From Page 81)

Claims use since February 1950.

Zorbitol — This for sweeping compound. Filed May 13, 1953 by C. B. Doldge Co., Westport, Conn. Claims use since August 1946.

Thompson-Hayward — This for laundry soaps and detergents. Filed May 21, 1953 by Thompson-Hayward Chemical Co., Kansas City, Mo. Claims use since February 1923.

Diximaid — This for liquid

Diximaid — This for liquid household cleaner. Filed July 8, 1953 by Alamont Laboratories, Inc., Montgomery, Ala. Claims use since June 16, 1953. Financing COPRA

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NEW Patents

The information below is furnished by patent law offices of

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The data listed below is only a brief review of recently issued pertinent patents obtained by various U. S. Patent Office registered attorneys for manufacturers and/or inventors. Complete copies may be obtained direct from Lancaster, Allwine & Rommel by sending 50c for each copy desired. \$1.00 for Canada. They will be pleased to give you free preliminary patent advice.

No. 2,676,879. Method of Destroying Undesirable Plants, patented by Arthur H. Schlesinger, Dayton, O., assignor to Monsanto Chemicals Co., St. Louis, Mo., a corporation of Delaware. The patent covers a method of destroying undesirable plants which comprises applying to said plant a toxic quantity of a herbicidal composition comprising a ketone selected from the class consisting of a-naphthyl alkyl ketones and β-naphthyl alkyl ketones in which the alkyl radical has from 1 to 4 carbon atoms.

No. 2,676,881. Herbicidal Compositions, patented by George E. Bennett, Dayton, O., assignor to Monsanto Chemical Co., St. Louis, Mo., a corporation of Delaware. The patent covers a method of destroying undesirable plants which comprises applying to said plants a toxic quantity of a herbicidal composition comprising a ketone selected from the class consisting of 2-(1 cyclohexenyl) cyclohexanone and 2-cyclohexylidenecyclohex-

No. 2,671,997. Method of Treating Collapsible Aluminum Tube Containers, patented by William Thomas Egan, Fanwood, N. J., and Russell Park McGhie, New York, and Fred-erick William Schneider, Woodhaven, N. Y., and Warren William Sweet, Pompton Plains, N. J., assignors to Colgate-Palmolive Company, a corporation of Delaware. This patent also is concerned with a process of packaging pasty material in a collapsible aluminum tube container, which material is corrosive to aluminum metal surfaces. This comprises the steps of wetting the surfaces, all of which are free from an artificially deposited coating of aluminum oxide, of a collapsible tube of aluminum of a purity of at least 99.5% with water, thereafter subjecting the tube while thus wet with water to an annealing temperature between about 250° F. and 1200° F. for a period of time sufficient to

provide a tube which is readily flexed and which has increased resistance to corrosion, and then filling said collapsible aluminum tube with said corrosive pasty material.

No. 2,676,880. Herbicidal Compositions, patented by Arthur H. Schlesinger, Dayton, O., assignor to Monsanto Chemical Co., St. Louis, Mo., a corporation of Delware. This patent describes a method of destroying undesired plants which comprises applying to said plants a toxic quantity of a herbicidal composition containing, as the essential active ingredient, m b-chloroethyl ether having the for-

in which R is selected from the class consisting of hydrogen, chlorine, and the methyl and ethyl radicals.

No. 2,676,130. Insecticidal 1,2,5, 6-Tetrahydro-2,5-Methano - 2,3,4,5,7,7-Hexachloro - Benzyl Allyl Sulfide patented by Alexander Winterstein, Chicago, assignor to Arvey Corp., a corporation of Illinois. A new composition of matter 1,2,5,6-tetrahydro-2,5methano - 2,3,4,5,7,7-hexachlorobenzyl allyl sulfide is covered and a method for controlling Aphis gossypii infestations which comprises applying to said insect and its habitats 1,2,5,6-tetrahydro - 2,5 - methano-2,3,4,5,7,7hexachlorobenzyl allyl sulfide.

No. 2,676,131. Halogenated Heterocyclic Insect Toxicants, patented by Samuel Barney Soloway, Denver, assignor, by mesne assignments, to Shell Development Co., Emeryville, Calif., a corporation of Delaware. Described is compound of the group consisting of (1) the compound having the formula

and a melting point when pure of about 176°-177° C., said compound being the epoxide of the Diels-Alder adduct obtained by heating hexachlorocyclopentadiene and bicyclo-(2,2,1)-2,5-heptadiene, and (2) the compound having the formula and a melting point of about 199°-202° C., said compound being the episulfide of the Diels-Adler adduct obtained by heating hexachlorocyclopentadiene and bi-

cyclo-(2,2,1)-2,5-heptadiene.
Also covered is an insecticidal composition of matter comprising a compound of claim 1 disseminated in an insecticidal adjuvant as a carrier therefor.

No. 2,676,132. 1,2,3,4,10,10 · Hexachloro - 6,7-Epoxy-1,4,4a,5,6,7,8, 8a-Octahydro - 1,4,5,8-Dimethanonaphthalene and Insecticidal Compositions Thereof, patented by Henry Bluestone, Denver, assignor, by mesne assignments, to Shell Development Co., Emeryville, Calif., a corporation of Delaware. The patent covers the compound 1,2,3,4,10,10-hexachloro - 6,7epoxy - 1,4,4a,5,6,7,8,8a-octahydro 1,4,5,8 - dimethanonaphthalene having the structural formula:

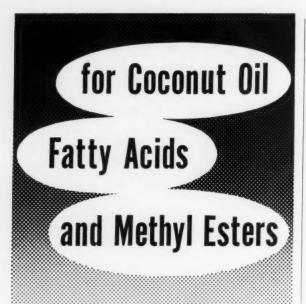
said compound

melting with decomposition at approximately 245° C. and being the epoxide of the Diels-Adler adduct obtained by heating cyclopentadiene and 1,2,3,4,7,7 - hexachloro-bicyclo-(2,2,1) -2,5-heptadiene.

The patent includes as an insecticidal composition of matter the compound of claim 1 disseminated in an insecticidal adjuvant as a carrier thereof.

No. 2,676,133. Circulin and Process for Its Production, patented by Philip A. Tetrault, Lafayette, Ind., assignor to Purdue Research Foundation, Lafayette, Ind., a corporation of Indiana. The patent describes the substance designated circulin, which (a) is effective in inhibiting the growth of gram-negatve bacteria; (b) is a basic polypeptide containing leucine, threonine, alpha, gamma-diaminobutyric acid and an optically active isomer of pelargonic acid; (c) contains free amino groups, as determined by the Van Slyke reaction; (d) forms salts with acids; (e) has an amino nitrogen analysis of 7.5 percent before hydrolysis and 15.8 percent after hydrolysis; (f) is substantially destroyed by crude trypsin and lipase; (g) forms a sulfate that is an amorphous solid soluble in water and to a lesser degree soluble in lower alcohols but insoluble in acetone and water-immiscible solvents, the sulfate salt having a melting point of 226 to 228 degrees centigrade, a specific rotation [a]D25 of minus 61.6 degrees (c.=1.25 in water); and (h) forms a hydrochloride salt exhibiting in a mineral oil suspension a characteristic absorption in the infrared region of the spectrum at the following wave length in microns: 2.9, 3.1, 4.4, 5, 5.6, 6, 6.3, 6.6, 7.2, 7.3, 7.6, 8.2, 8.5, 8.7, 9.8, 10.1, 10.8, 11.3, 11.9, 12.9, 13.2, 14 and 15.

(Turn to Page 110)



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AITIC	ELDO 18	PALMITATE
	CAPRIC	COCONUT CAPROATE CAPRIC CAPRATE MYRISTIC MYRISTATE

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—Metal valve parts nickel and chrome-plated. Neoprene washer, resistant to alkali. 12 ounce "Duraglas" globe — both handsome and sturdy.

VACUUM FLOW
CONTROL
—Sure fire, trouble-free action.
INSTALLED IN
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SOAP PLANT Observer

By John W. McCutcheon

NOTE on colored detergents seems appropriate at this time with the recent announcement by Lever Brothers Co, that it has begun to market "Rinso Blue", as a competitive item to Procter & Gamble Co's very successful entry in the colored detergent derby. It was our impression that the coloring of "Cheer" was more by accident than by design. The appeal to the housewives of "Blue Cheer's" color, however, proved so interesting from an advertising and marketing point of view that the idea of coloring detergents seems to be catching on.

The actual value of the color as a washing aid is probably nil. The chief appeal of using a blue dyestuff being one of associating that particular color with what the housewife has long used for her laundry bluing operations. While the addition of color to detergents is a rather new idea, the coloring of soap is not new. It has been common practice for at least twenty years to add color to blown powders, generally yellow, to give them a "golden" tint. The dye served the purpose of keeping the product uniform from batch to batch, which was a somewhat difficult task when the color and amount of the foots used in the formula varied widely.

The housewife isn't the only one to associate color with some special property of the product. A long time ago the writer discussed the pros and cons of soap flakes with the salesman of a very small concern in an eastern town. He proudly displayed a dirty brown sample of laundry flakes and exclaimed, "See, unbleached soap! twice as good as that snow white processed stuff you make." Shocked silence!!

R ECENTLY, the writer received a complimentary copy of a German book entitled *Textilhiljs*-



mittel und Waschrohstoffe, from the author Dr. Kurt Lindner. The book is published by Wissenschaftliche Verlagsgesellschaft M.B.H., Stuttgart in West Germany. Unfortunately the writer's German is not sufficiently advanced for him to undertake a review of the book single-handedly, so we had to turn for help to a close friend in the detergent field. Later we will see that his comments are incorporated in this column. In the meantime, a few basic observations are in order. First, the 6 x 9 inch book of 976 pages is the work of an expert. In addition, it is well printed and illustrated. It is indexed and subdivided methodically in the style often associated with German scholars. Volume I of Soap Manufacturing by Davidsohn et al, Interscience Publishing Co., is an example of the German style.

American practice is to write more around the topic of a chapter and to avoid sharp points of demarcation. Both styles have their value. The American way permits easier interchange of ideas, the German documentary system, is easier to use as a reference text. The book is divided into four parts. The first deals with the basic organic chemicals used in the detergent and textile processing industry. For example, it covers data on the fatty acids

themselves and their derivatives along the lines of books on fatty acids by Ralstons (John Wiley & Sons, Inc.) and Markley (Interscience Publishing). The new German book does not go into detailed literature references and covers a broader field to include something on synthetic fibers.

Part two, dealing with surface active materials somewhat along the lines of the Perry & Schwartz book on Surface Active Agents (Interscience Publishing), gives more details on German type products. The references throughout are extensive but are not exhaustive. Interesting data will be found in this section on products which are not well known today in America but which are proving of more and more interest. For example, only a short time ago the research director of a large company mentioned his interest in a certain unusual type product not being manufactured presently in America. The writer noted that this product was covered.

Section three deals with textile processing materials and includes, in addition to surface active agents, such materials as the phosphate esters, fatty esters, mineral oil, etc.

Section four covers analyses and includes a number of methods not generally used in America. References are all cataloged by section in the back of the book. There is also a section covering the surfactant products of a number of German and Swiss companies, an index of authors, a trade name product index and a general index.

A few errors are bound to creep into a work of this kind but the writer's knowledge of German does not qualify him to pin-point these. One error, however, occurs in the spelling of Monsanto in one section. An errata sheet covers a few others.

À book of this kind will be used widely in various fields, and there are bound to be some who would like more data on the polyphosphates, for example. Others might cut down on the theoretical

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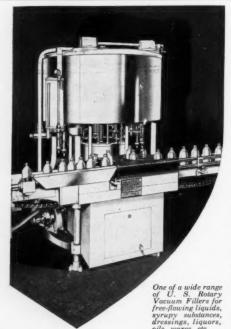
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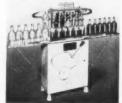


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discussion of surface activity. Probably the book will exactly fit the requirements of the textile chemist.

The only criticism that might be made of the book is the lack of reference to the recent American book Textile Chemicals and Auxiliaries by Speel (Reinhold Publishing Co.) However, it is more than likely that Dr. Linder's book went to press before Speel's book was published. References to the writer's own book Synthetic Detergents (MacNair-Dorland Co.) are numerous and very gratifying. This is probably why Dr. Linder sent his book to the writer in the first place.

UR April column listed five chemical companies producing organic type sequestering agents. We missed one: Glyco Products Co. of Brooklyn. This was an embarrassing oversight as the writer had received not more than three or four months ago a very attractive bulletin from this company on "The Tetrines". Described in the bulletin is a family of eight products derived from ethylendiamine tetraacetic acid which vary in strength and acidity. In discussing these products the company emphasized the fact that the purity reaches as high as 99% and over and that iron salts are made for agricultural use. The bulletin covers the theory of sequestering, specifications of products, uses and some analytical data.

S OMETIMES we are asked con-cerning the manufacture of sequestering agents. Let it be stated here that the generally accepted process uses chemicals which are highly poisonous and require special safety devices. It is a job for the experts. However, everything chemical is becoming work for the ex-

Not long ago we visited a factory where soap had reigned supreme for many years and a walk among the kettles was as safe as a walk in the park. All this is now changed. On this trip the writer wore a steel helmet and massive plexiglass shield fitting like a cap-

sule over his head. The only thing that prevented him from looking ridiculous was the fact that everyone else was wearing the same thing! If the housewife only knew what the chemists and chemical engineers have to go through!

Toxicology

(From Page 53)

action after removal of the first patch showing the presence of a very slight irritation. None of them showed a reaction after removal of the second patch, which would indicate the presence of cutaneous sensitizers. Most products in the toxic group showed a + reaction after removal of the first patch. None of them was found to contain cutaneous sensitizers after removal of the second patch.

In the toxic group, the three quaternaries showed a ++ reaction after each patch indicating that they are both primary irritants and cutaneous sensitizers. Another product with a high degree of toxicity when taken internally showed a ++ reaction as a primary irritant, but negative results for cutaneous sensitization.

Conclusion

THE results of toxicological studies conducted on synthetic detergents have established the fact that with the three main classifications of anionic, non-ionic and cationic, there are huge differences in the toxic values of individual products. This applies to oral toxicity and to symptoms of irritation and sensitization evidenced by the eye irritation test and the animal intradermal single injection method, both these tests being conducted on animals, and by patch test on human beings.

No synthetic detergent has been found to belong to the very high toxicity group. However, quite a few belong to the high toxicity and median toxicity groups. Some of these products have specific qualities which make them valuable to industry and they can be used if proper precautions are taken. There

are a great many synthetic detergents in the low toxicity and nontoxic groups, which in addition have good performance characteristics and thus are ideal products. Rarely is there any need for using a product the toxic and irritation characteristics of which render it hazardous to safe use whether in the home or in industry.

AASGP Proceedings

The proceedings of the 27th annual convention of the Association of American Soap & Glycerine Producers was issued recently in the form of a paper covered 186-page book. Additional copies are available to association members at \$5 per copy and to non-members at \$10.

Soap Germicide

(From Page 40)

discolor white bar soap during its normal shelf-life.

6. In liquid soap the new germicide continues to show degerming activity for at least two days after its use is discontinued.

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New Patents

(From Page 105)

No. 2,671,995. Packaging of Materials, patented by William Thomas Egan, Fanwood, N. J., assignor to Colgate-Palmolive Company, Jersey City, N.J., a corporation of Delaware. The patent covers a process of packaging pasty material in a collapsible aluminum tube container, which material is corrosive to aluminum metal surfaces. This process comprises the steps of immersing an annealed, collapsible tube of aluminum of a purity of at least 99.5% whose surfaces are free from artificially deposited coatings of aluminum oxide in a boiling water bath for a period of time of approximately one-half to two hours whereby the corrosion resistance of the aluminum metal surfaces of the tube is substantially increased, and then filling said collapsible aluminum tube with said corrosive pasty material.

No. 2,671,996. Packaging of Materials, patented by Frederick William Schneider, Woodhaven, N. Y., assignor to Colgate-Palmolive Company, a corporation of Delaware. A process of packaging pasty material in a collapsible aluminum tube container is described, said material being corrosive to aluminum metal surfaces. This comprises the step of subjecting an annealed, collapsible tube of aluminum of a purity of at least 99.5% to the action of steam for a period of time of approximately one-half to two hours whereby the corrosion resistance of the aluminum metal surfaces of the tube is substantially increased, and then filling said collapsible aluminum tube with said corrosive pasty material.

No. 2.675,356. Detergent Compositions, patented by Parke Woodworth, Wilmington, and Laurence T. Sherwood, Jr., New Castle, Del., assignors to E. I. du Pont de Nemours & Co., Wilmington, Del., a corporation of Delaware. The patent covers a composition of matter consisting essentially of at least about 10% by weight of a solid anionic organic detergent about 0.1% to about 10% straight-chain aliphatic alcohol containing at least about 7 carbon atoms, said complex containing about 0.75 mol of urea per mol of methylene group present in the alcohol, the remainder of said composition consisting essentially of an alkali metal salt

No. 2,673,207. Process of Neutralizing Crude Sulfonates, patented by Frederick W. Trusler, Toronto, Ontario, Canada, assignor to Colgate-Palmolive Company, a corporation of Delaware. The patent covers a process of neutralizing acid sulfonation products containing an organic acid selected from the group consisting of organic sulfonic acids and sulfuric

acid esters and unreacted sulfonating agent to prepare a salt of the organic acid substantially free of inorganic salt. The method comprises preparing a two phase liquid vehicle containing neutralizing agent, one phase of said vehicle comprising an aqueous solution of an inorganic salt and the other phase of said vehicle comprising an inert organic solvent for the neutralized organic acid, said inorganic salt having an anion selected from the group consisting of sulfates, chlorides, and nitrates and said organic solvent being immiscible with the aqueous inorganic salt solution, and introducing the said sulfonation products into said two phase liquid vehicle under turbulent conditions to effect neutralization.

No. 2,674,889. Method of Testing the Solubility of Bar Soap, patented by Frederick Leslie Toof, Minneapolis, Minn., assignor to Micro Processing Equipment Inc., Des Plaines, Ill., a corporation of Illinois. The patent covers a method of testing a bar of soap to determine its lathering properties, which is characterized by the steps of: holding a bar of soap to be tested with one substantially flat surface thereof in contact with still water of predetermined hardness, the soap being only very slightly immersed in the water and said flat surface having a predetermined area; and, after a predetermined time of immersion, measuring the size and opacity of the precipitate cloud which forms as a result of such immersion, for the purpose of comparison with the same characteristics of the precipitate cloud from a bar of soap of known properties having a surface of similar area similarly immersed in water of the same hardness for the same period of time.

No. 2,674,527. Herbicidal Compositions Containing Chlorinated Aryl Esters of Chlorinated Aliphatic Monocarboxylic Acids, patented by Luther L. Baumgartner, Hastings-on-Hudson, N. Y., assignor to B. F. Goodrich Co., York, a corporation of New York. The patent covers a herbicidal composition which comprises as the essential active ingredient 0.01% to 10% by weight of a polychloroaryl ester of a chlorinated aliphatic monocarboxylic acid, said acid having from 1 to 6 carbon atoms and said polychloroaryl portion of the ester containing at least 3 chlorine atoms in the aryl nucleus and, as a carrier therefor, a mineral oil consisting predominantly of hydrocarbons containing 10 to 20 carbon atoms.

No. 2, 676, 152. Concentrated Aqueous Soap Solution of Low Viscosity, patented by Fred Fortess, Summit, and Seth T. Bowen, Union, N. J., assignors to Celarese Corp. of America, New York, a corporation of Delaware. A soap composition is covered comprising a concentrated aque-

ous solution containing from about 15 to 25% by weight of a soap selected from the group consisting of sodium and potassium soaps and, as a viscosity reducing agent thereof, between about 2 to 10% by weight, based on the weight of the soap, of an alkyl oleate wherein the alkyl group contains from 3 to 10 carbon atoms.

No. 2,677,700 Polyoxyalkylene Surface Active Agents, patented by Dorald R. Jackson, Wyandotte, and Lester G. Lundsted, Grosse Ile, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan. A cogeneric mixture of compounds is patented having the formula:

Y(oxypropylene)*(oxyethylene)*H where: Y is the residue of an N-substituted arylsulfonamide containing one active hydrogen atom, and n and m are integers; the average value of n in the mixture being at least 6.4, as determined by hydroxyl number, and the average value of m in the mixture being such that the oxyethylene groups constitute 25-95%, by weight, of the mixture.

No. 2,674,619 Polyoxyalkylene Compounds, patented by Lester G. Lundsted, Grosse Ile, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan. The patent discloses a cogeneric mixture of conjugated polyoxypropylene - polyoxyethylene compounds containing in their structure oxypropylene groups, oxyethylene groups and an organic radical derived from a polybasic carboxylic acid having a molecular weight of less than 200; the compounds being characterized in that all of the oxypropylene groups are present in polyoxypropylene chains that are attached to the organic radical at the site of a reactive hydrogen atom thereby constituting a polyoxypropylene polymer; the oxyethylene groups being attached to the polyoxypropylene polymer in polyoxyethylene chains; the average molecular weight of the polyoxypropylene polymers in the mixture being at least 900, as determined by hydroxyl number, and the oxyethylene groups present constituting 20-90%, by weight, of the mixture.

No. 2,674,580. Liquid Shampoo, patented by Hyman Henkin, Bayside, N. Y., assignor to Colgate-Palmolive Co., a corporation of Delaware. An opaque liquid shampoo is described having a pH from about 5 to 7.5 and consisting essentially of water-soluble detergent selected from the group consisting of the anionic organic sulfated and sulfonated detergent salts, an aqueous medium, and minor amount of behenic acid therein sufficient to maintain said liquid shampoo opaque, creamy and stable against separation at elevated temperatures.

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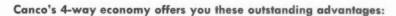
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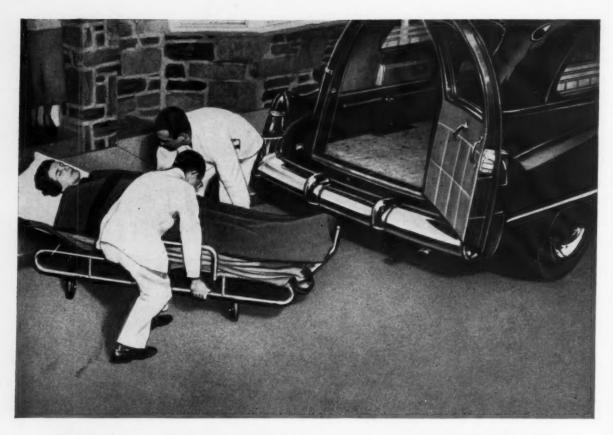


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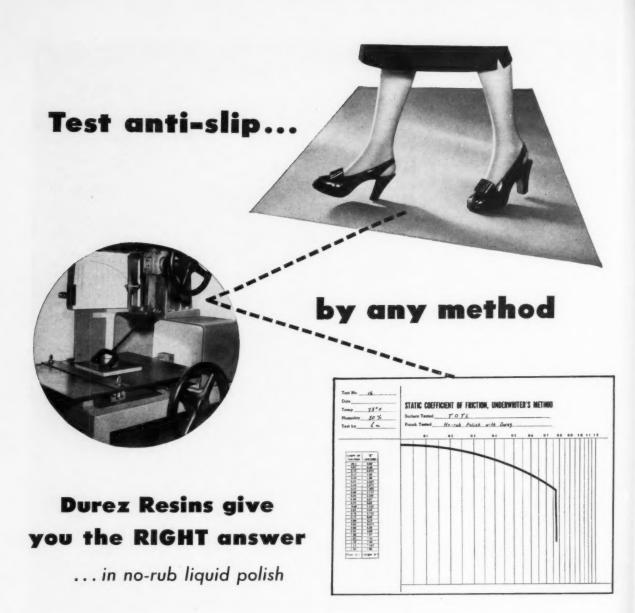
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LETHANE — Perfume Oil Fruitberry MM&R, Perfume Oil Sweetgrass MM&R, Neutralizer 202 MM&R, Deodorant L-37 MM&R should be used. (1½ oz. to 1 gal. Lethane)

LINDANE — Same recommendations as for Chlordane.

PENTACHLOROPHENOL — Neutralizer 202 MM&R is effective for oil solutions. For aqueous solutions use W.S. Neutralizer 202-41.

PYRETHRUM - See recommendations for DDT.

THANITE - Same recommendations as for Lethane.

VELSICOL — Employ Deodorant L-37 MM&R or Deodorant L-44 MM&R. (1 oz. to 1 gal. Velsicol)

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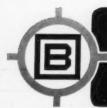


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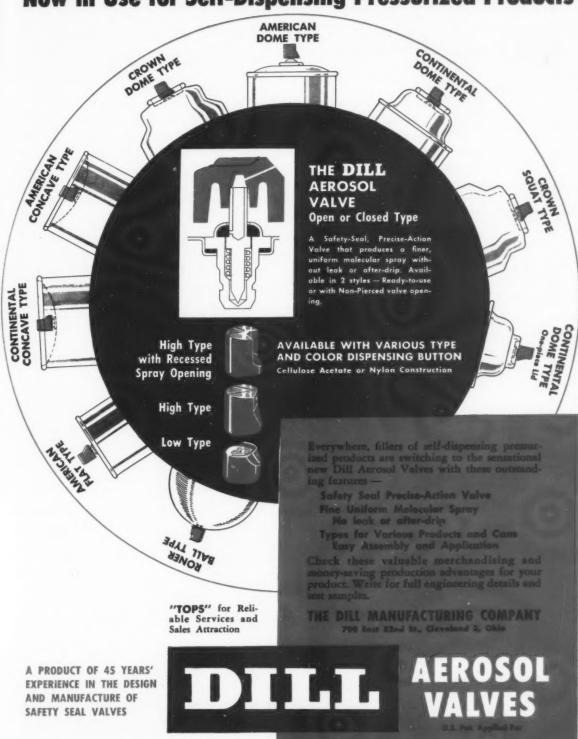


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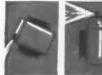
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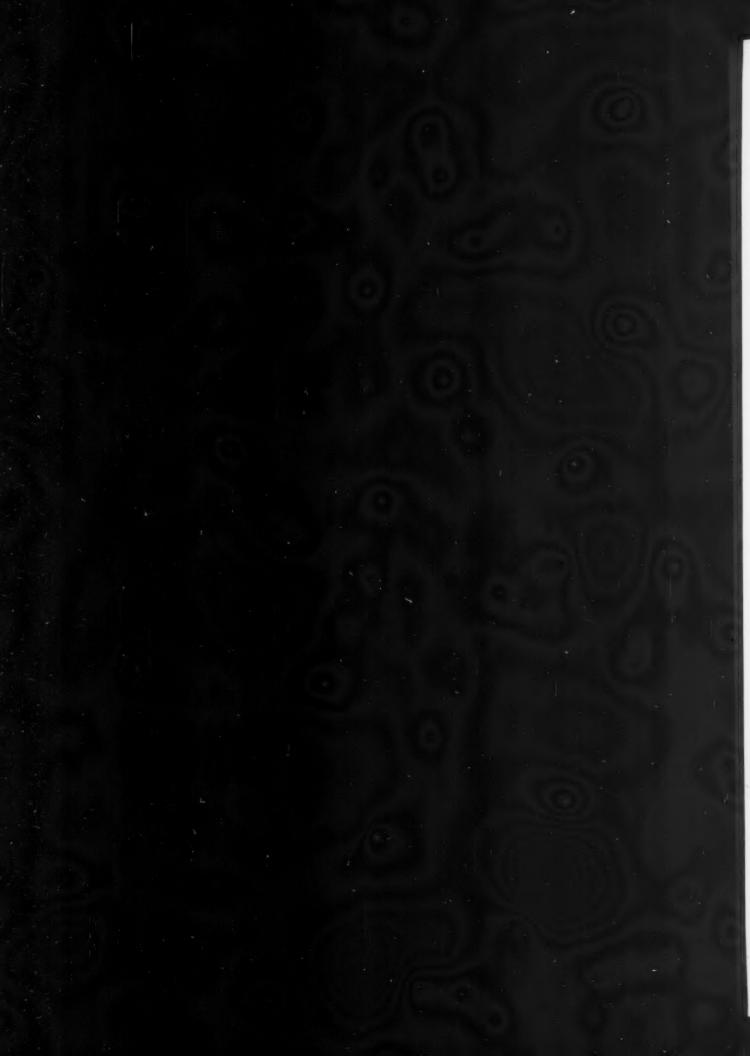


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CSMA Midyear Meeting...

First Cincinnati gathering of specialties manufacturers draws record turnout for mid-year meeting. Divisions elect officers.

45 percent increase in the output of aerosol products in 1953 over 1952 was reported by the aerosol survey committee of the Chemical Specialties Manufacturers Association during the 40th midvear meeting of C.S. M.A. at the Netherland Plaza Hotel, Cincinnati, May 24-25. Other highlights of the program for the meeting, which was one of the largest midvear gatherings of the association with a registration figure of close to 700, were the results of the insecticide survey, a report on the toxicity of DDT and a panel discussion of the toxicology of soaps and detergents and their ingredients.

New developments in the field of chemical specialties, including "Cyclethrin," a new pyrethrin like insecticide, the use of corrosion inhibitors for hydrochloric acid cleaning compounds, and the application of polystyrene type latices in water-emulsion floor waxes were

reported on in individual meetings of the six divisions of which the Chemical Specialties Manufacturers Association is composed.

Trends in marketing of automotive specialties, household insecticides and aerosol products were outlined in papers during the divisional meetings.

Association business was reported on by C.S.M.A. officers, and divisional administrative committees were elected to serve in 1955 at the midyear meeting. Officers and members of the board of governors of C.S.M.A. are elected at the annual meeting to be held at the Hotel New Yorker, New York, Dec. 5, 6 and 7.

Socially the meeting was a success, with large attendances at the President's Reception, the evening of May 23, the two group luncheons on May 24 and 25, and the reception and banquet on the evening of May 25.

Divisional administrative committees elected to serve in 1955 include:

Aerosol: H. R. Shepherd, Connecticut Chemical Research Corp., Bridgeport, Conn., chairman; Charles E. Beach, John C. Stalfort & Sons, Baltimore, vice-chairman; A. M. Adler, Helene Curtis Industries, Chicago; H. G. Mackintosh, Standard Oil Co. of Indiana, Chicago, and R. W. Svendsen, Chase Products Co., Maywood, Ill.

Automotive: N. J. Gothard, Sinclair Refining Co., Harvey, Ill., chairman; A. James Coulter, Gulf Oil Corp., Pittsburgh, vice-chairman; L. M. Sesson, S. C. Johnson & Son, Inc., Racine, Wis.; C. A. Weslager, Fabrics and Finishes Division, E. I. du Pont de Nemours & Co., Wilmington, Del.

Disinfectant and Sanitizers: Russell G. Puhle, Tykor Products Division, Borden Co., Brooklyn, chairman; Roland S. Shumard,

Left to right: J. M. Klapp, assistant to the president of United Airlines, luncheon speaker, May 25, and Harry E. Peterson, president of Continental Filling Corp., Danville, Ill. and second vice-president of C.S.M.A. Albert A. Stevenson, Deputy

Office in Charge, Robert A. Taft Sanitary-Engineering Center of U. S. Public Health Service, Cincinnati, speaking at the luncheon May 24, and H. W. Hamilton, C.S.M.A. secretary, seated at right.





Monsanto Chemical Co., St. Louis, vice-chairman; A. G. Bowers, Hunt Manufacturing Co., Cleveland; J. B. Dienna, Rohm & Haas Co., Kansas City, Mo., and William A. Hadfield, Pennsylvania Salt Manufacturing Co., Philadelphia.

Insecticide: George W. Fiero, Esso Standard Oil Co., New York, chairman; Carlos Kampmeier, Rohm & Haas Co., Philadelphia, vice-chairman; A. E. Badertscher, McCormick & Co., Baltimore; Joseph E. Lee, McLaughlin Gormley King Co., Minneapolis, and Robert C. White, Jr., Robert C. White Co., Philadelphia.

Soaps, Detergents and Sanitary Chemical Products: G. E. Barker, Atlas Powder Co., Wilmington, Del., chairman; James M. Cloney, General Aniline & Film Corp., New York, vice-chairman; Richard Egan, Hunt Manufacturing Co., Cleveland; D. H. Terry, Bon Ami Co., New York, and John L. Wilson, Economics Laboratories, Inc., St. Paul, Minn.

Waxes and Floor Finishes:
A. E. Budner, S. C. Johnson & Son,
Inc., Racine, Wis., chairman; C. S.
Kimball, Foster D. Snell, Inc., New
York, vice-chairman; Earl Brenn,
Huntington Laboratories, Inc.,
Huntington, Ind.; F. H. Lyons,
E. L. Bruce Co., Memphis; R. E.
Sievert, Frank B. Ross Co., Jersey
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Aerosol Division

THE application of polyvinylpyrrolidone, popularly designated PVP, to such aerosol products as suntan preparations, shampoos, insecticides, fungicides, specialty coatings, antiperspirants, etc. was described in a paper "PVP in Pressurized Products," prepared by J. M. Wilkinson, Jr., G. G. Stoner, D. B. Witwer and E. P. Hay, who presented the paper. The authors are connected with the central research labroatory and the commercial development department of General Aniline & Film Corp., New York.

Originally considered for use only as a blood volume expander

Captions: Facing Page

Left to right and top to biottom: John Bahlburg, Wyandotte Chemicals Corp., Wyandotte, Mich., Anthony M. Zellner, Carl Pacifico and John Andre, American Alcolac Corp., Baltimore; A. G. Peck, Peck's Products Co., St. Louis, R. S. Shumard, Edmund Greene, and Daniel Roman, Monsanto Chem. Co., St. Louis.

Abe Wiener, Standard Naphthalene Products Co., S. Kearny, N. J.; A. L. Saeks, Puro Co., St. Louis, A. R. Kohl, Owens-Illinois Glass Co., Toledo, and John D. Conner, Sellers & Conner, C.S.M.A. counsel, Washington, D. C.; John Andre, American Alcolac Corp., Baltimore, Robert C. Ferris, Purex Corp., South Gate, Calif., and T. H. Elder, Jr., American Alcolac.

A. Guiteras, New York, Richard Roach, Reichhold Chemicals, Inc., White Plains, N. Y. and Glenn E. Doerr, Federal Varnish Division, Chicago; George Hartz, John Powell & Co., New York, John Wittke, Oil Equipment Laboratories, Elizabeth, N. J. and Thomas Reilly, General Electric Co., Waterford, N. Y.

Joseph Sinsheimer, Fuld Brothers, Inc., Baltimore, Robert Aylesworth, Emery Industries, Inc., Cincinnati, Donald King, Masury Young Co., Boston, and Melvin Fuld, Fuld Brothers, Inc., Baltimore, and C.S.M.A. President; William Walton, National Bureau of Standards, Washington, D. C., Miss E. M. Sarich, Warwick Wax Division, Sun Chemical Corp., Long Island City, N. Y. and James D. Carpenter, Koppers Co., Pittsburgh, Pa.

C. L. Weirich, C. B. Dolge Co., Westport, Conn., H. W. Hamilton, C.S.M.A. secretary and J. L. Brenn, Huntington Laboratories, Inc., Huntington, Ind.; A. Hartung, National Can Corp., New York, Russell Young, Davies-Young Soap Co., Dayton, and William Janney, National Can Corp.

(Plasma substitute) PVP's unsual properties were further explored and many additional applications were uncovered, at first in the pharmaceutical field, and later in the cosmetic industry.

PVP is a white, free flowing powder that is soluble in water and a variety of organic solvents. A film forming polymer, it is available in a range of molecular weights. The properties of PVP that have been of particular importance in the development of such a diversity of applications were summarized by Mr. Hay as follows:

1.) physiological compatibility with body tissues, skin and hair;
2.) hygroscopicity; 3.) protective colloidal action; 4.) unusual range of solubility; 5.) stability; 6.) solubilizing action; 7.) broad compatibility range; 8.) minimizes corrosion and valve problems; 9.) excellence as film former; and 10.) detoxifying capacity.

The continuing growth of the aerosol market was reported on by Frederick G. Lodes, of Precision Valve Corp., Yonkers, N. Y., chairman of the Aerosol Survey Committee. The total number of aerosols produced in 1953, including government contracts, according to figures supplied by 68 aerosol fillers was 140,000,000. This represents a 45 percent increase over 1952. The 1951 output of aerosol units

was approximately 42,000,000 units, the committee estimated.

At retail, the value of products produced by the aerosol industry is now approximately \$150,000,000, the 1953 aerosol survey shows.

Household insecticides, the largest group of products packaged in aerosol form, showed an increase of 11,000,000 units over 1952 in 1953. Approximately 17,500,000 insecticidal aerosols, including space sprays, moth proofers and residual types were packed in 1952.

Aerosol shave creams in pressurized packages, showed "perhaps the greatest growth in the aerosol and pressurized packaging field in 1953," and almost doubled their 1952 output. Approximately 32,000,000 shave cream units were produced in 1953, as against 16,-682,378 in 1952.

The rate of growth of hair lacquer products in 1953 was even greater than that of aerosol shave creams, according to the aerosol survey. Although not listed in a separate category in 1952, but part of "Other Personal Products," hair lacquers were produced at the rate of about five million units in that year. In 1953, when accorded separate status, aerosol hair lacquer production was reported to be 15,-120,132.

The 12 ounce pressurized aerosol container size continues to





Left to right, top to bottom: Paul D. Torpin, McLaughlin Gormley King Co., Minneapolis, Gordon Martin, Cook Chemical Co., Kansas City, Mo., Joseph E. Lee, MGK and Baxter T. Scroggin,

R. A. Fulton, Bureau of Entomology & Plant Quarantine, U.S.D.A., Beltsville, Md., Theodore Heilig, Regal Chemical Corp., Brooklyn and Samuel Kaye, Chemical Corps, U. S. Army.

Henry J. Becker, Magnus, Mabee & Reynard, Inc., New York, John S. Lyall, Petrolite Corp., New York, and Joseph Baird Magnus, Magnus, Mabee & Reyn-ard, Inc., New York.

Stanley A. Mattison, Niagara Alkali Co., New York: Henry J. Brownstein, Hysan Products Co., Chicago, Anthony Haas, Atlantic Research Co., Alexandria, Va. and Mike Lemmermeyer, Aromatic Products, Inc., New York.

B. W. Young, Wax & Rosin Products, New York; William Wallstein, West Dis-infecting Co., Long Island City, N. Y.; John Conover, L. Sonneborn Sons, New York, and M. J. Kammerling, Fumol Corp., Long Island City.

B. W. Schroeder, Archer-Daniels-Midland Co., Minneapolis; E. Scott Pattison, Association of American Soap & Glycerine Producers, New York; Charles Caruso, Swift & Co., Chicago, and R. F. Brown, Emery Industries, Inc., Cincin-

Ray Hodapp and Paul Brna, Roubechez, Inc., New York, and Ralph E. Kaye, Jr., Alrose Chemicals Co., Providence.

Robert M. Reese, Sterwin Chemicals, Inc., New York; Don Peatee, Mellocraft Toledo, and Edward P. Hassler,

be more widely used than the six ounce unit and by a wide margin, the aerosol survey shows.

Disinfectant and Sanitizers

METHOD for the evaluation of soaps containing germicidal agents by a "use type" of procedure was read by C. S. Kimball of Foster D. Snell, Inc., at the Disinfectant and Sanitizers Division session the morning of May 24. The paper was prepared by A. Haldane Gee and I. L. Seidenberg of Foster D. Snell, Inc., New York. With as few as 12 subject volunteers, numerical values can be derived for the relative effectiveness of test soaps in reducing body odor, by an "in use" type of procedure, according to the authors. The tests take about two weeks and are based on washing routines the subjects carry out at home.

The odor evaluations are essentially organoleptic, but observers highly trained in odor appraisal are not essential. Laboratory personnel with average olefactory acuity can successfully follow the procedures described, with valid results.

A review of the germicidal action of the quaternary ammonium germicide benzalkonium chloride 200 p.p.m. under a variety of controlled conditions which have been presumed to be inimical to the sanitizing efficiency of this compound was discussed in a paper by John W. Klimek and John Hays Bailey of Sterling Winthrop Research Institute, Rensselaer, N. Y. The following conclusions were reached in the paper, which was presented by Mr. Bailey:

- 1.) The sanitizing effect of benzalkonium chloride is not adversely effected by synthetic hard water at 450 p.p.m. or less hardness at exposure periods as short as two minutes. With shorter exposures there may be some delay in killing action (in three of nine tests) but at 30 seconds there was never less than 99.92 percent of the organisms destroyed.
- 2.) The sanitizing action of benzalkonium chloride is not adversely effected by iron in concentrations up to five p.p.m. hardness in alkaline waters at exposure periods of approximately
- 3.) The sanitizing action of benzalkonium chloride is not adversely effected by aluminum in concentrations up to five p.p.m. in alkaline hard water of 450 p.p.m. hardness on exposure periods of approximately one minute.
- 4.) Certain natural waters retarded the rate of kill as shown by 30 seconds exposure, but the sanitizing action of benzalkonium chloride in the same water was entirely satisfactory at two minutes exposure.
- 5.) In comparative tests benzalkonium chloride was more effective than certain of the detergent iodine sanitizers in the natural waters used in these experiments and in synthetic dirty waters prepared from one of these.
- 6.) No viable organisms could be demonstrated at 30 seconds exposure to 200 p.p.m. benzalkonium chloride in synthetic hard water of 450 p.p.m. hardness and/or up to five p.p.m. iron or aluminum when one to two mg/cc of sodium ethylene diamine acetate or trisodium phosphate were present in the medication mixture.

That certain fatty acids in the C9 to C12 range are "strongly bactericidal" and that this activity is "materially enhanced by increasing

acidity such as might be encountered during ozonization," was revealed in a paper by J. V. Karabinos and H. J. Ferlin of Blockson Chemical Co., Joliet, Ill. In the paper, Mr. Karabinos, who presented it, point-

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ed out that the condensation products of various tall oils with ethylene oxide are treated with ozone for purposes of decolorization. It was later found that those nonionic detergent "ozonides" possessed considerable bactericidal activity and since the activity was of a greater order with tall oils containing larger amounts of fatty and particularly oleic acids it seemed logical to assume that the causative agents were

Left to right; top to bottom: George W. Flint, Standard Oil Co. of Indiana, Whiting, Ind., and Malachy J. Flanagan, Federal Varnish Division, Chicago; E. S. Avery, Pennsylvania Refining Co., Butler, Pa., and Kenneth B. Nash, John Powell & Co., New York; D. C. McSorley and R. P. Holdsworth, Kinetic Chemicals Division and legal departments, respectively, E. I. du Pont de Nemours & Co.,

Inc., Wilmington, Delaware.

Al Meyer, B. Meyer & Son, Dallas and Marshall Magee, T. F. Washburn Co., Chicago; Robert H. Nelson, Bureau of Entomology & Plant Quarantine, U.S.-D.A., Beltsville, Md., John Stoddard, Prentiss Drug & Chemical Co., New York, and Bayard S. Johnson Franklin Research Co., Philadelphia. Glenn E. Doerr, Federal Varnish Division, Chicago, and John J. Garvey, M. Argueso & Co., Mamaroneck, N. Y.; T. B. Welsh, Gulf Oil Corp., Pittsburgh and George W. Christopher, Regal Chemical Corp., Brooklyn; George W. Fiero, Esso Standard Oil Co., New York and Franklin C. Nelson, Esso Standard Oil Co., Linden, N. J.



the ozonolysis products of the oleic acid esters such as pelargonic acid, the authors report. This hypothesis was further strengthened in that other fatty acids in the C₉ to C₁₂ range such as lauric, undecylic and capric proved to be strongly bactericidal and this activity was materially enhanced by increasing acidity such as might be encountered during ozonization. Of these saturated fatty acids tested, undecylic gave the highest order of activity.

Insecticide Division

R. Ralph E. Heal, secretary of the National Pest Control Association, New York, first speaker of the May 24 morning session of the Insecticide Division, speaking on the subject, "Product Damage Hazards with Insecticides," cautioned manufacturers to put adequate label instructions on pesticides to avoid the possibility of product damage to fabrics, metal objects, plastics and wood.

The second speaker of the session declared that, "Push button aerosols have revolutionized the household insecticide industry, and today's pesticide is an "honest woman," compared with the products of yesterday. These comments on what's happened to the insecticide industry since 1948 were made by Ira P. MacNair, president of MacNair-Dorland Co., New York, publishers of Soap & Chemical Specialties.

To some degree the improved quality of today's household insecticide may be due to the recently enacted Federal Insecticide, Fungicide and Rodenticide Act, passed by Congress in 1947 to replace the old, outmoded law, the Insecticide Act of 1910.

The chief development of the past five years in household insecticides has been the aerosol pressure type package, which was put across by the low-pressure, low cost beercan type of container, Mr. MacNair

In 1948 when high-pressure aerosol "bombs" retailed at \$2.95 up to \$4.95 for a standard 12 to

Left to right, top to bottom: George Isenman, Beacon Co., Cambridge, Mass.; N. J. Gothard, Sinclair Refining Co., Harvey, Ill., Alfred W. Weed, John Powell & Co., New York, Dixon Van Winkle, Atlas Powder Co., New York, M. J. Kammerling, Fumol Corp., Long Island City, N. Y.; Joseph E. Sternberg, Mantrose Corp., Brooklyn; Dr. E.G. Klarmann, Lehn & Fink Products Corp., New York, and first vice-president of C.S.M.A.

John M. Wittke, Oil Equipment Laboratories, Inc., Elizabeth, N. J. and Philip H. Harris, Mac-Lac Co., New York; Mrs. Edith Ault, Cornelius Products Co., Chicago and William Pollnow, Vestal, Inc., St. Louis; Robert W. Svendsen, Chase Products Co., Maywood, Ill., and G. T. Parker, General Chemical Division, Allied Chemical & Dye Corp., Chicago.

Frederick G. Lodes, Precision Valve Corp., Yonkers, N. Y., Abraham Winer and Harvey Krentzman, Puritan Distributing Co., Boston; Frank T. Finn, Sweetheart Costmetics and Ira P. MacNair, publisher of SOAP & CHEMICAL SPECIALTIES; Friar Thompson, Athens, Ga. and Leonard J. Oppenheimer of West; Albert Selig, The Selig Co., Atlanta and Joseph J. Gregory, Chase Products Co., Maywood, Ill.

Donald M. King, Masury-Young Co., Boston, Earl Brenn, Huntington Laboratories, Inc., Huntington, Ind., unidentified; J. S. Barker, Rohm & Haas Co., Philadelphia and Ralph Althaus, B. F. Goodrich Chemical Co., Cleveland; Jack L. Wilson, Pennsylvania Industrial Chemical Corp., Chester, Pa., W. E. Graham, Crown Can Co., Philadelphia, John Ball, Tidy House Prods., Omaha.

Don Begley and Vincent Hall, Reilly Tar & Chemical Corp., Indianapolis and John Powell of Powell Magazines, New York; Stanley Maas, Felton Chemical Co., Brooklyn and Rolf Trusler of Davies Young Soap Co., Dayton; C. R. Moreland, C. H. Jefferson, Department of Agriculture, Ottawa, Canada and Harold M. Lederer of R. M. Hollingshead Corp., Camden, N. J., and W. S. McLeod of the Canadian Department of Agriculture.

Nathan D. Froot, Propel Chemicals, Inc., New York, John Matthews, Aerosol Co., Boston, and Bernard Freudenthal, Chemical Service of Baltimore; Anthony J. Grady, Sinclair Refining Co., E. Chicago, Ind., and J. S. Barker, Rohm & Haas Co., Philadelphia; Raoul Pantaleoni, Van Ameringen-Haebler, Inc., New York, and Milton J. Foder, Robert A. Taft Sanitary Engineering Center, Cincinnati.

16 ounce package, many in the industry said the aerosol was just a flash in the pan. The 1954 aerosol insecticide has succeeded because of greatly improved formulation, improved propellents and improved valves. It sells for around 95 cents. In 1953, about 30,000,000 units were sold.

In addition to aerosol units, 20,000,000 gallons of household insecticide spray to be dispensed by hand sprayers were sold worth \$40,000,000. Sales of stock sprays of oil base type totaled 5,000,000 gallons, valued at \$10,000,000 in 1953. Household moth control products sold last year were estimated to amount to 35,000,000 pounds, worth \$11,000,000. The value of all types of paste and powder insecticides was put at around \$3,000,000.

The "Insecticide Survey of 1953," the final presentation of the session, by Dr. George W. Fiero of Esso Standard Oil Co. of New York, showed a decrease in consumption of insecticides for 1953, as compared with 1952. In terms of pounds of products, livestock wettable powders—to be suspended in water, amounted to 919,252 pounds

in units of less than five pounds and 2,646,549 pounds in units of five pounds and over; on the same basis, powders—for application without water, totaled 935,442 pounds in less than five pound units and 698,302 in units of five pounds and over. Moth products, including balls, crystals and flakes, were reported as 9,558,873 in under five pound units and 5,916,112 in units of five pounds and over.

In the survey for the years 1952 and 1951, which was presented at the May midyear meeting of C.S.M.A., the total figures expressed in pounds were broken down into units of less than four ounces, four to eight ounces, eight to 16 ounces, one to five pounds, five to 10 pounds, 10 to 25 pounds, 25 pounds and over 25 pounds.

Figures for space sprays, residual sprays, fabric pest sprays, livestock oil base and water emulsion sprays and concentrates, emulsion concentrates other than livestock, concentrates to be diluted with petroleum base (non-agricultural) and stored grain sprays showed the following totals, with figures for 1952 appearing in parenthesis: less than pint, 1,826,469



(1,543,804); pint, 26,281,944 (21,-928, 261); quart, 9,253,232 (8,789,-531); half gallon, 62,172, not reported in 1951-2; gallon, 1,569,921 (1,360,067); five gallons and over, 1,310,616 (1,970,726).

Soaps, Detergents and Sanitary Chemical Products

PRELIMINARY research has confirmed German findings that carboxy methylcellulose in synthetic detergent mixtures results in a product that is less irritating to the skin than one without CMC, H. R. Suter of Wyandotte Chemicals Corp., Wyandotte, Mich., told the Soaps, Detergents and Sanitary Chemical Products Division meeting, the morning of May 24. The work done by the Germans was continued on a few subjects in this country, but the findings will not be published until further work has been done, Mr. Suter told the group. He was part of a panel discussing the subject of "Toxicology of Soaps and Detergents."

Perfume oils and antibacterial agents can be considered as primary irritants to the skin, the next speaker, R. E. Vicklund of Sindar Corp., New York, reported. Because of their dilution in the finished product, their dilution with water and the short time of contact with the skin the danger of irritation is reduced. The question of the build-up on the skin of hexachlorophene was also considered. In cosmetic type products the problem is different from that with soaps because cosmetics remain on the skin for longer periods. The danger with cosmetics is in sensitization. Materials that are sensitizers are liable to be troublesome, Mr. Vicklund said.

Perfume oils, because they are combinations of many materials are very difficult to test as sensitizers. The chemical composition of some natural oils is not even known. However, because of the long history of use of essential oils, most of those which cause irritation have been discarded. The aldehydes and the ketones are believed to be

the bad actors as far as sensitization is concerned, Mr. Vicklund stated.

"With antiseptic soaps and detergents we are more fortunate in that we are dealing with a single chemical of known composition. Toxicological data is available on most of these compounds," Mr. Vicklund pointed out.

Reading the paper for Miss M. H. Faillie, assistant biochemist to Dr. Louis C. Barail, New York consulting biochemist and toxicologist, E. J. Black, Warwick Wax, said products which have a pH under 5 can cause damage to the skin. Those having a high pH can also cause irritation. Much of the paper was based on an article by Dr. Barail which appeared in the April issue of Soap & Sanitary Chemicals.

The principal allergens that most frequently cause contact dermatitis were outlined by the next speaker, Irwin I. Lubowe, M.D., of New York, who also described the anatomy of the skin and how product injuries to the skin take place. The principal allergens causing contact dermatitis listed by Dr. Lubowe include: aniline and similar dyes; cosmetic ingredients and cosmetic bases; plastics and plasticizers; local anaesthetics, especially the ethyl amine benzoic acid derivatives; anti-oxidants, as utilized in synthetic and natural rubber products, particularly the monobenzylether of hydroquinone which cause depigmentation; insecticides, particularly of the thion derivatives, and synthetic fibers such as Nylon, Dacron and Orlon; the metallic salts such as arsenic, bismuth, mercury and gold and the essential oils used in perfumes and for making deodorizing agents.

Dr. Lubowe also pointed out that with continued and renewed usage of cosmetics and accessories it follows that there may be a small percentage of allergic skin reactions. These untoward reactions are usually observed in the zealous user, or in the consumer with a medical allergic history. There are at least 25,000,000 cosmetic applications that are utilized daily by the female

population and it is quite apparent that the amount of sensitization that occurs is almost negligible: however, when an acute eczematous dermatitis occurs it is accompanied by marked discomfort and anxiety.

The first of the two group luncheons, held May 24, featured an address by Albert A. Stevenson, Deputy Officer in Charge of the Robert A. Taft Health Engineering Center, Cincinnati. A nominating committee to submit a slate of officers and members of the board of governors for election at the 41st annual meeting in New York, Dec. 6, 7 and 8, was elected at the luncheon. It is composed of N. J. Gothard, Sinclair Refining Co., Harvey, Ill., chairman; C. L. Weirich of C. B. Dolge Co., Westport, Conn.; Bayard S. Johnson, Franklin Research Co., Philadelphia; Charles E. Beach, John S. Stalfort & Sons, Baltimore; Howard Williams, R. L. Watkins Co., Winona, Minn.

In his address, Mr. Stevenson reviewed the history, and described the aims and functions of the center as 1.) international; 2.) interstate-to prevent the spread of disease between states; 3.) scientific research; 4.) collection of information on public health; 5.) intra government health relations with such government agencies as the Atomic Energy Commission, etc. and 6.) awarding of grants in aid to states.

Automotive Division

M ETHANOL and ethylene glycol have both shown a steady increase in consumer acceptance since 1946, R. E. Daley of Carbide & Carbon Chemicals Co., New York, reported in his paper, "Trends in Anti-Freeze Raw Materials." The paper was read at the afternoon meeting of the Automotive Division, May 24.

"The consumer's preference for methanol over other volatile anti-freezes, has been dictated largely by the cost and performance considerations," Mr. Daley pointed out. "The consumer's preference for ethylene glycol as a non-volatile

anti-freeze has been influenced by the fact that there is really no other product competitive to it in physical properties, much less price. The car owner's continually growing preference for non-volatile antifreeze over volatile anti-freeze has one main cause: he wants to be sure that his car is really protected. In most areas in the United States the weather is quite variable from Fall

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to Spring. The car owner does not want to worry about whether he is still protected. He wants to put one shot in the radiator in the Fall and rest content until Spring, knowing full well the investment he has in his car is protected."

"The testing of anti-freeze is a complicated matter due to a variety of factors and it is a subject on which there is still a good deal of controversy, notwithstanding the efforts which have been made over the course of more than 25 years to resolve difficulties and standardize methods of testing." These were the observations of Cyril S. Kimball and Bernard Berkeley of Foster D. Snell, Inc., New York, in a paper read by Mr. Kimball.

A bench method of testing

Left to right and top to botton: James E. Ferris, Niagara Alkali Co., New York; Clarence L. Weirich, C. B. Dolge Co., Westport, Conn., Frank J. Pollnow, Vestal, Inc., St. Louis, Peter C. Reilly and Don Begley, Reilly Tar & Chemical Co., Indianapolis; Reginald P. Perry, Union Bay State Chemical Co., Cambridge, Mass., Milton Klein, State Chemical Co., Cleveland, Robert Sweet and George

Thruman, Union Bay State Chemical.

Jay C. Harris and Robert Harris of Monsanto Chemical Co., St. Louis and David B. Hatcher, Stepan Chemical Co., Chicago; Henry Brownstein, Hysan Products Co., Chicago, Leonard J. Oppenheimer, West Disinfecting Co., Long Island City, N. Y. and Louis M. Argueso Jr., M. Argueso & Co., Mamaroneck, Westchester County, New York.

Alvin Gyllenswan, Nanuet Valve Co., Nanuet, N. Y. and Frank Finn, Sweetheart Cosmetics Division, Manhattan Soap Co., Boston; Fred Demme, Sharples Chemicals, Inc., Philadelphia, Thomas Harris, S. C. Johnson & Son, Inc., Racine, Wis., and Lester Berger, Jr., Cabide & Carbon Chemicals, New York.





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Description: ...

Jefferson's nonyl phenol is a mixture of monoalkyl phenols, predominantly para substituted and is a clear viscous liquid. The side chains are isomeric branched alkyl radicals.

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287° min. 290° min. 302° max.

Suggested Uses:

- An intermediate for detergents, emulsifiers, etc.
 A stabilizer for ethyl cellulose
 A plasticizer for cellulose esters

- 4. An intermediate for other plasticizers
- 5. A starting material for production of lubricating oil additives and rubber chemicals
 6. An antioxidant

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Briefs From recent literature

No. 6 in a Series

Modified phenol-aldehyde resins for coating compositions to give films which are markedly resistant to weathering and are otherwise durable, are relatively inert toward, and compatible with, pigments and fillers, are smooth, have high gloss, are resistant to water and alkali, and retain their hardness under conditions of high humidity, can be obtained using nonyl phenol and an aldehyde as starting materials.

A fire extinguisher compound which is noncorrosive can be produced by dissolving in water 1 to 10 parts of sodium nitrite per 10 parts of an alkylated phenolethylene oxide condensate. The ingredients are mutually soluble in a dilute water solution and do not react to accelerate corrosion in a concentrated solution.

New thermoplastic compositions which are particularly useful in coating formulations, waxes, insecticidal compositions, etc., may be prepared by condensing alkyl phenol with formaldehyde and a higher fatty acid having at least 8 carbon atoms, converting the condensation product to a metal salt, and adding a fatty alcohol of at least 8 carbon atoms. The composition is soluble in gasoline, kerosene, and various petroleum naphthas. When used on metal, the protective coating is a tough, adherent, water-repellent film which may be removed when desired by wiping with a cloth dipped in kerosene.

A washing powder containing a synthetic, soapless, oily liquid deter-gent, can be produced by mixing a solution of the polyethylene oxide condensation product of an alkyl phenol with the sodium salt of carboxymethyl cellulose, sodium carbonate, sodium bicarbonate, and sodium sulfate. The detergent does not tend to separate on storage from the inorganic constituents used to make up the powder.

These developments are abstracted from recent publications or U.S. patents. They may suggest applications of Jefferson Nonyl Phenol in your products or processes.

which is said to combine the principles of a simulated service test and a glassware corrosion test was suggested by the authors in their paper, "The Testing of Antifreeze in the Laboratory and on the Road."

The method suggested would allow for two different kinds of corrosion measurements.

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The "Problems of Anti-Freeze Marketing," outlined in a paper of that title by William H. Adamson of Commercial Solvents

Corp., New York, are complicated by the vagaries of the weather, a short marketing season, large inventory problem and lengthy period of wait for payment. Mr. Adamson's paper is published beginning on page 173 of this issue.

Waxes and Floor Finishes

NE of the newer developments in the floor wax industry, the use of polystyrene type latices in self-polishing floor waxes, was discussed in a paper of that title by Lloyd H. Perry and Robert S. Sweet of Union Bay State Chemical Co., Cambridge, Mass., as the opening feature of the meeting of the Waxes and Floor Finishes Division, the afternoon of May 24. Lloyd H. Perry presented the paper in which it was pointed out that polymers, because of their inherent toughness and durability, are potentially valuable in wax formulation. Standard polymer systems, however, are not

C.S.M.A. Aerosol and Pressurized Products Survey

Number of units by the size indicated for Number of units by the size indicated for contracts.

each one of the products listed, packed by each one of the products listed, packed by 37 companies in 1953 including government 31 companies in 1952, including government contracts.

Product	Number of Units Packed			Numb	nber of Units Packed			
	High Pressure	Twelve Ounce	Six Ounce and Less	Total	High Pressure	Twelve Ounce	Six Ounce and Less	Total
Space insecticides	3,657,290	33,236,303	2,056,402	38,949,995	610,349	29,456,906	2,060,568	32,127,823
Residual insecticides — roach and ant sprays, etc.		3,790,120	660,402	4,450,522		1,473,178	276,312	1,749,490
Mothproofers		3,579,813	255,624	3,835,437		1,940,410	21,931	1,962,341
Room deodorants		7,444,148	8,325,597	15,769,745		6,950,386	5,459,882	12,410,268
Pigmented and metallic paints		7,752,631	504,001	8,256,632		4,344,035	143,373	4,487,408
Clear plastic sprays		2,191,722	168,711	2,360,433		2,219,556	14,915	2,234,471
Other household products — waxes, insect repellents, water repellent, rug shampoo, etc.		1,729,718	613,874	2,343,592		1,951,897	1,147,971	3,099,868
Shaving lather		2,280,893	22,018,352	24,299,245		3,171,976	13,510,402	16,682,378
Hair lacquers		8,201,652	6,918,480	15,120,132				
Other personal products— shampoos, perfumes, personal deodorants, sun tan oil, hand lotion, etc.		1,154,976	2,624,902	3,779,878		2,24 5 ,658°	6,521,151°	8,766,809°
Medicinals and pharmaceuticals— athlete's foot, burn preventives, etc.	-	164,953	666,348	831,301	*			
Snow — all types ²		7,368,656	1,533,429	8,902,085				
Miscellaneous products — dog sprays, mildew preventives lubricants, ignition spray, antistatic spray, etc.	,	1,680,268	936,177	2,616,445		9,685,013*	3,413,0364	13,098,049*
TOTAL	3,657,290	80,575,853	47,282,299	131,515,442	610,349	63,439,015	32,569,541	96,618,905
		-						

C.S.M.A. Note: This survey includes only non-food products.

^{&#}x27;New category, formerly part of "Other Personal Products".

"New category, formerly part of "Miscellaneous Products".

Includes hair lacquers.

Includes snow and medicinals and pharmaceuticals-athlete's foot, burn preventives, etc.

well suited for this application. The advantages of a polymer, together with a suitable polymer emulsion system were discussed and several typical wax formulations using this combination were indicated.

Because of the effect of the product on the container and the reaction (if any) of the container to the product, it is necessary to test containers to see which are best suited for a particular product, L. E. Kneeland pointed out in the paper, "Evaluation of Metal Containers for Chemical Specialties Products," by E. R. Blair, G. E. Curtis and Mr. Kneeland of the research and technical department of American Can Co., Maywood, Ill. The paper described some of the testing procedures employed for the determination of specifications for metal containers for floor waxes, polishes and other chemical specialties.

The quantitative reproducibility for a chromatographic elution method of determining the hydrocarbon content of carnauba and ouricuri waxes has been established, it was revealed by E. A. Wilder, research supervisor of S. C. Johnson & Son, Inc., Racine, Wis., in the final paper of the session. The paper bore the title, "The Application of Chromatographic Technique to the Determination of a Hydrocarbon Fraction in Carnauba and Ouricuri Wax." The author pointed out that the normal hydrocarbon content of the two waxes has been determined as less than two percent by this method on certified samples. The method elutes the hydrocarbon with warm (50°C) heptane from a sample of wax chromatogrammed on a column of activitated alumina (activity I or II by the Brockman Classification) under specified conditions.

General Session

A TTEMPTS to have the Association of Economic Poisons Control Officials withhold adoption for enforcement by Federal or State agencies of its newly adopted definition of the word "concentrate" is among the activities in which the Chemical Specialties Manufacturers

Assn. has been engaged, H. W. Hamilton stated in his report as secretary at the general session, the morning of May 25. As a result of the efforts of C.S.M.A. to have the definition, which is unsatisfactory to many C.S.M.A. members, held up, the Assn. of Economic Poisons Control Officials in executive session at Washington, D. C. has decided to appoint a new committee to reconsider the definition, Mr. Hamilton revealed. He also disclosed that the association is seeking to have Massachusetts discontinue the manufacture of insecticides for its own use. This has been going on for the past year or two, Mr. Hamilton stated.

Other association activities that have taken place in the "period of its greatest activity" since the annual meeting last December are the issuance of the C.S.M.A. proceedings of the 40th annual meeting; the publication of the fifth revision of the Compilation of Economic Poisons Laws; the continued distribution of the reprints of the report on the need for waxing vinyl flooring; the issuance of the surveys of the aerosol and insecticide industries; the efforts to obtain Freon 114 for use in the aerosol industry; and the regular issuance of association bulletins.

Peter C. Reilly, Jr., of Reilly Tar & Chemical Corp., Indianapolis, Ind., in his report as treasurer said that the association is in sound financial shape. Detailed reports on the final status of CSMA were mailed out just prior to the meeting, Mr. Reilly said.

"Business will pick up certainly after Labor Day . . . and it is possible that the (Federal Reserve Production) Index will move up to about 127, or possibly 130, during the early last quarter of this year . . . ," Melvin Fuld of Fuld Brothers, Inc., Baltimore, predicted in his address as C.S.M.A. president.

"American business, this year, is suffering from a hangover caused by last year's excesses," Mr. Fuld said. Heavy inventories built up by record production in '53 have contributed importantly to the pres-

ent economic adjustment. The immense activity, however, enabled manufacturers last year to turn in the third highest earnings in their history. The return to more normal peace time conditions is inevitable after years of post-war boom, generated largely by pent up civilian demands and huge defense requirements," Mr. Fuld declared.

"I believe that in advertising we are going to see a new trend in the chemical industry. One instance is the tie-in campaigns of prime producers with their major suppliers, several of which have already appeared in numerous magazines," Mr. Fuld said. "Certainly it pays to advertise . . . ," Mr. Fuld added. He also predicted that advertising expenditures in the chemical specialties industries will increase.

Federally registered products sold in interstate commerce need not be controlled locally, John D. Conner of Sellers-& Conner, Washington, D. C., stated in his report as C.S.M.A. legal counsel. Mr. Conner's remarks carried the title, "Legal Aspects Incident to National Marketing of Chemical Specialties." The question of the legality of local regulation of products in interstate commerce that have been registered federally has never been litigated, Mr. Conner pointed out. Growing state and local regulation of chemical specialties with consequent overlapping and added expense to manufacturers was criticized by Mr. Conner. He listed the federal laws regulating the sale and distribution of chemical specialties, and pointed out in addition to these and other state laws governing the sale, labeling and registration of pesticides, there are qualification laws in effect in 18 states. Compliance with qualification laws is costly and inconvenient, Mr. Conner declaired.

The need for copy control as a separate function of management was outlined in a discussion of "Copy Control" by E. M. Hughes of R. M. Hollingshead Corp., Camden N. J. Defining "copy" as "everything which appears on labeling or

in an advertisement whereby a message is conveyed directly or by inference to a prospect or customer, whether by radio, television or any other form of the graphic arts. Under certain circumstances it includes the salesmen's spoken presentation".

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Copy control, Mr. Hughes defined as ". . . the responsibility and authority to approve, modify or disapprove copy."

Someone must write directions, see that the trade mark, signature and contents appear properly. Such responsibility should be centered in one person or department, not scattered among several. And such centralization of copy responsibilities is the establishment of a copy control unit, Mr. Huges concluded.

Insecticide Division

NEW insecticide for controlling house flies was described in the paper, "Cyclethrin, Readily Synergizable Pyrethrins-Like Insecticide", by Dr. Harry L. Havnes, Boyce Thompson Institute for Plant Research, Inc., Yonkers, N. Y., and Howard R. Guest and Dr. Harry A. Stansbury, Carbide and Carbon Chemicals Co., Union Carbide and Carbon Corp., S. Charleston, W. Va. Mr. Haynes, who presented the paper, described the new insecticide as a "safe and effective synthetic chemical of the pyrethrins-type (that) is more highly synergized than allethrin by pyrethrins synergist for rapid knock down and kill of house flies".

Designated "Cyclethrin", the complex molecule [3-(2-cyclopentenyl) 2- methyl-4- oxo-2- cyclopentenyl chrysanthemummonocarboxylatel was synthesized in Carbide's research and development laboratories at South Charleston, W. Va., and evaluated against insect pests by the biological research fellowship at Boyce Thompson Institute for Plant Research, Inc., Yonkers, N.Y.

Cyclethrin has been prepared in the laboratory with a purity of 95 as determined by ethylene diamine method of analysis, and is quite soluble both in petroleum distillate and "Freons".

Mammalian toxicological tests have shown that the toxicity of cyclethrin is of the same nature as and no greater than that of allethrin and pyrethrins.

Insecticide tests have shown that cyclethrin in oil space sprays and in low pressure aerosols is synergized by pyrethrins synergists to a much greater degree than allethrin for knockdown and kill of house flies. When synergists piperonyl butoxide and sulfoxide are used at the same concentrations with cyclethrin as with pyrethrins, 1.6-1.7 times the amount of cyclethrin as pyrethrins is needed to provide excellent Grade AA space sprays. Two times as much allethrin and two times as much piperonyl butoxide are required to equal the pyrethrins sprays. In aerosols containing synergists with no DDT, 1.8 times as much cyclethrin and 3.7-5.0 times the quantity of allethrin is needed to equal pyrethrins. When DDT is added to such mixtures the knockdown and kill of houseflies is improved so it equals that of cyclethrin.

Sulfoxide and piperonyl butoxide synergize cyclethrin in oil sprays better than allethrin for knockdown of German roaches. Cyclethrin plus sulfoxide provides superior kill when compared with similar allethrin mixtures.

Synergized cyclethrin shows considerable promise for control of biting flies attacking dairy cows when used in oil space-repellent type mixtures, in water based sprays and in treadle sprayer concentrates. Results for two seasons of testing in five states indicate that 1.6-1.7 times the dosage of synergized cyclethrin is needed as compared with synergized pyrethrins for control of horn, house, stable and horse flies.

Many early opinions regarding the toxicity of DDT have been modified and some have been reversed entirely because more time of scientific investigators has been devoted to the study of DDT toxi-

city than to any other insecticidal compound. This view was expressed in a paper, "DDT Toxicity—Up to Date", by Frank Princi, M.D., College of Medicine, University of Cincinnati Kettering Laboratory, Cincinnati; Dr. Princi's complete paper begins on page 167 of this issue.

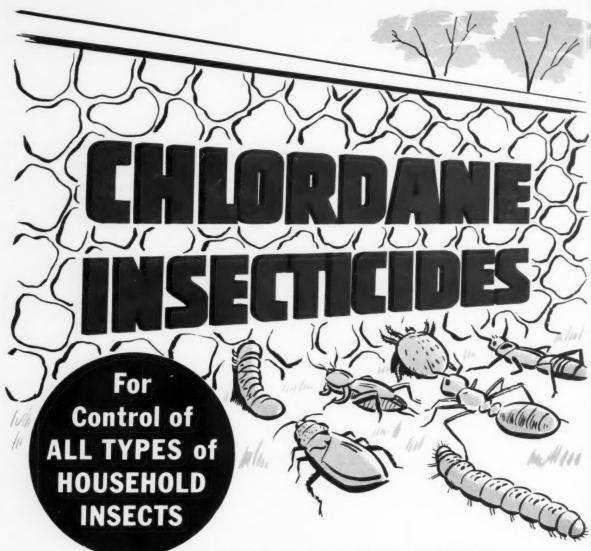
Since "toxicity" means many things to different people much confusion has occurred because of differences of opinion concerning DD-T's harmfulness to man, Dr. Princi stated. He pointed out that of all of chlorinated hydrocarbon insecticides, DDT is more widely used, both inside and outside the home than all others combined. As the forerunner of a number of different chemicals of this group, it has brought upon itself the blessings of millions and the acrimony of a few. It has been the toxicity of DDT (real or imagined) that has resulted in both reactions, Dr. Princi stated.

"The attainment of cleaner food requires better protection of raw materials during all stages of handling and processing, particularly on farms", Walter W. Dykstra of the Fish and Wildlife Service, Department of the Interior, stated in his paper, "Toward Cleaner Food". Rigid sanitation, augmented by careful use of lethal materials, is essential.

Soap, Detergents and Sanitary Chemical Products

T HE use of inhibitors in hydrochloric acid type cleaning compounds has resulted in products that are effective for removing stains from porcelain surfaces, as well as metal. A group of polyoxethylated rosin amines have been found to be particularly effective inhibitors, Donald F. Stauffer of Hercules Powder Co., Wilmington, Del. reported at a joint meeting of the Automotive and Soap, Detergents and Sanitary Chemical Products Divisions, the afternoon of May 25. Mr. Stauffer's paper begins on page 161 of this issue.

The program to maintain clean rest rooms in service stations of Sinclair Refining Co., Harvey



Chlordane is the ideal insecticide to control household insects. It's effectiveness, economy and ease of application are selling points which mean repeat sales and bigger profits. And Chlordane controls the complete range of household insects . . . including cockroaches, ants, silverfish, brown dog ticks, carpet beetles, box elder bugs, spiders, termites, flies, mosquitoes, crickets, fleas, earwigs, and many others. Chlordane applications remain residually effective against these pests for long periods . . . another important factor to the consumer. Write today for information about the Chlordane way to bigger insecticide profits—

VELSICOL CORPORATION

Division of Arvey Corporation

General Offices and Laboratories 330 East Grand Ave., Chicago 11, III. Foreign Division 100 East 42nd St., New York 17, N. Y.

REPRESENTATIVES IN PRINCIPAL CITIES

Ill., was described by William E. Bohlen of Sinclair who discussed "Rest Room Cleanliness".

"We've found it worthwhile to spend the time and the money for this educational service because it pays off in sales and goodwill", Mr. Bohlen declared. Sinclair stations, operated by independent merchants, cannot be compelled by the oil company to maintain their rest rooms in a manner to meet with the public's approval. However, dealers who do maintain clean and properly equipped rest rooms are furnished with an attractive three-color enamel curb sign reading, "Clean Rest Room". In addition, Sinclair supplies the dealer with postage-free postcards and card holders to be placed in rest rooms. These cards invite motorists to send in their comments. These are received by the Sinclair dealer's service bureau in New York, and each comment, whether favorable or unfavorable receives an answer. The dealers concerned then receive copies of the customers' comments and Sinclair's replies. The dealers warm up to praise of their facilities and try to do even more. If comments are adverse, the dealer receives a true picture of what the public thinks of his facilities. He usually corrects them.

Only three percent of the cards Sinclair has received from all overth e U. S. carry unfavorable comments. Women are enthusiastic about full-length mirrors installed in newer stations.

Restrooms in modern stations are brighter and more cheerful in appearance. They have tile floors and either tile or imitation tile walls of a very attractive light green shade. Besides being easier to clean, these materials are more resistant to soiling and spots.

Aerosol License Change

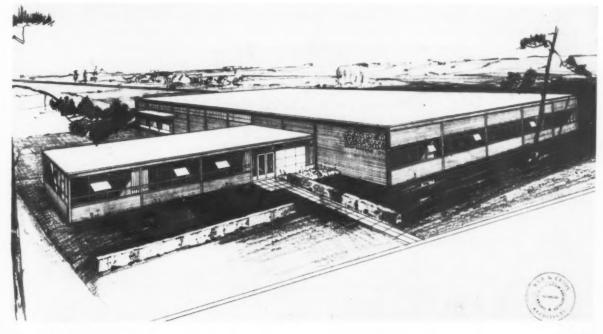
Aerosol formulations of insecticides no longer must be submitted for approval to the assistant director, Crops Research, Agricultural Research Service, U. S. Department of Agriculture, prior to application for registration under the Federal Insecticide, Fungicide

New 24,000 square foot office and plant of Cardell enterprises, Bethridge Road and Kipling Ave., Toronio, Canada. The plant is on a two acre site. It will house the bulk sprayer and insecticide activities of Cardell and the aerosol packaging lines of Aerocide Dispensers. Cail Durant is president of both organizations, which in addition do general contract filling. Building exterior is of buff brick. Offices are in wing off the manufacturing plant. The company has just installed a second aerosol line on which it can do pressure packing, open cut fill at the rate of 50 containers per minute.

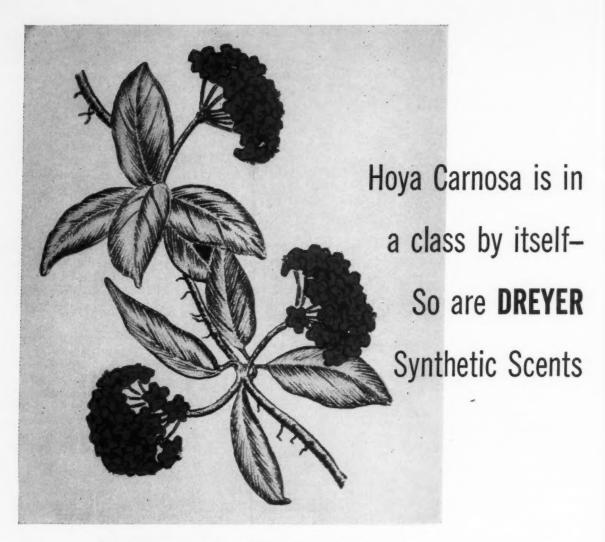
and Rodenticide Act. This was revealed in letters sent by the USDA to 77 licensees and to a number of firms who submit formulas though holding no licenses covering U.S. Patent No. 2,321,023, June 8, 1943, entitled "Method of Applying Parasiticides." The patent was issued to Lyle D. Goodhue and William N. Sullivan and assigned to the Secretary of Agriculture.

The non-exclusive license empowers the licensee to make, use, and sell products utilizing the method of propelling insecticides in the form of aerosols covered by the above-designated patent, within the territory of the United States of America, without the payment of royalty, subject to certain conditions.

A reexamination was made of the factors relating to the public health and safety of the propellents and insecticidal ingredients used to produce aerosols. It is now considered that compliance with the Federal Insecticide, Fungicide and Rodenticide Act as outlined in section 5 of the license is sufficient control to protect the public health and safety. Section 4 of all existing licenses has been cancelled, resulting in the above simplification of procedure.



ES



The waxen flowers of Hoya Carnosa have something rare and fragrant.

Their perfume is memorable. It has its own distinction. Nature does not duplicate it.

You can't get it even from Dreyer . . . which is so adroit in re-creating even the subtlest natural flower odors.

And a Dreyer Floral Essence—besides having the unique characteristics of the natural flower perfume—seems to have greater power to last—with more uniformity, too.

So the quality you want is always kept high, and the costs you must watch are kept low. Send today on your letterhead for free samples.

depend on

Dreyer for



P. R. DREYER, Inc. 601 WEST 26th STREET, NEW YORK 1, N. Y.

State Pesticide Laws...

A review of principal provisions of state insecticide, fungicide and other economic poisons laws which require registration.

By C. C. Mc Donnell

LL manufacturers of insecticides, fungicides, and other products classified as "Economic Poisons" or "pesticides", are subject to Federal legislation and regulations covering interstate shipments, and to thirty eight (38) different State laws and the laws of Hawaii and Puerto Rico.*

The Federal law and thirty six (36) of the State and Territorial laws require registration before these products may be legally sold, and all but the Federal and two of the State laws require a registration or "inspection" fee.

The Federal Act applies to "substances or mixtures of substances intended for preventing, destroying, repelling, or mitigating any insects, rodents, fungi (including bacteria), weeds, and other forms of plant or animal life or viruses, (except viruses on or in living man or other animal), which the Secretary (of Agriculture) shall declare to be a pest." The Act also includes authority over claims and directions for non-economic poison uses in the case of products which have both economic and non-economic poison uses.

The State laws, in general, follow the Federal law as to coverage. Where a material difference occurs, it is noted in the text.

Registration under the Federal Act is not required to be renewed annually, but the Secretary (of Agriculture) "is authorized to cancel the registration of any economic poison at the end of a period of five years . . . or at any five year period thereafter, unless the registrant, prior to the expiration of such five year period, requests in accordance with the regulations issued by the Secretary that such registration be continued in effect." A system has been established whereby a registrant is given thirty (30) days notice of need for renewal of registration.

State Laws

Alabama Insecticide and Fungicide Law. Registration required annually. Year October 1 - September 30, Fee \$15.00 for each economic poison registered.

Arizona Economic Poisons Act of 1945. Annual registration. Year January 1 - December 31. Fee \$25.00 for the first and \$10.00 for each additional product registered. The Act does not cover household insecticides, disinfectants and deodorants. However, "any economic poison, which may be used for purposes falling within the provisions and intent of the Act but labeled or sold as a household insecticide or economic poison in containers of one gallon or more as a liquid (or its approximate equivalent in weight of eight pounds or more in solid or powder form) shall be classed as an economic poison within the provisions of the Economic Poisons Act and must be registered." (Regulation No. 1).

Arkansas Economic Poisons

Act (Amended effective June 11, 1953). Registration required annually, renewable July 1. Fee \$5.00 each for the first 10 products and \$2.00 for each additional product registered.

The Act also covers devices ("Any instrument or contrivance intended for trapping, destroying, repelling, or mitigating insects, but not including equipment used for the application of economic poisons"), which must registered.

California State Agricultural Code, Economic Poisons. Registration annually. Year July 1 - June 30. Fee (Effective July 1, 1954) \$75.00 for the registration of one to 10 economic poisons and \$3.00 for each product over 10, provided "if renewal of registration is not applied for within one calendar month after the expiration of a registration, there shall be added to the fee a penalty of ten per cent (10%), to which shall be added an additional penalty of five per cent (5%) of the original amount due, for each succeeding calendar month, but the total penalty shall not exceed fifty per cent (50%) of the original amount due." (There is no penalty if the registrant makes an affidavit that no business was done during the period of nonregistration).

Manufacturers of economic poisons which do not exceed a total retail value of five hundred dollars (\$500.00) per annum, shall pay an annual fee of fifteen dollars (\$15.-00) to the director, which shall entitle the registrant to manufacture,

^{*}For a complete compilation of the State and Territorial laws, see "Compilation of Economic Poison Laws" published by Chemical Specia ties Manufacturers Association, Inc., 110 East 42nd. Street, New York 17, N. Y.

If You Repack

Radiator Cleaners! Wood Bleaches!

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GENERAL CHEMICAL

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Here's Why:

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Trouble-Free: Uniform, coarse crystals mean better performance in mechanical filling equipment. There is less tendency to form agglomerates or arch in bins.

Highest Quality: No contaminants or impurities. Always assays a minimum of 99.2% C₂H₂O₄·2H₂O.

In your customer's hands-

Free-Flowing: Uniform coarse crystals pour readily from container. No lumping and caking.

Rapid Dissolving Rate: Better performance in radiator cleaning solutions or wood-bleaching compounds.

Good Appearance: Clear, colorless crystals have sparkle, quality "look."

Whether you require Oxalic Acid in coarse crystal form for manufacture of auto radiator cleaners . . . or a fine crystal material for industrial process uses . . . General Chemical can "fill the order" for you.

Long recognized for its consistently high purity, General's Oxalic Acid is a clear, colorless product which assays a minimum of 99.2%

C2H2O4.2H2O. It is made in the coarse and fine crystal forms to meet every need.

If you use Oxalic Acid, and have never tried General's product, do so now. You'll be agreeably surprised at its marked superiority on every count. For samples and further information, call your nearest General Chemical office listed below.

Also for: Leather and Furs, Textiles, Dyes, Pentaerythritol, Plastics, Drugs, Laundries, Chemicals and other uses.



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In Canada: The Nichels Chemical Company, Limited • Montreal • Toronto • Vancouver



Basic Chemicals For American Industry

import, or deal in two economic poisons of varying name and composition, and for each product over two, for an additionl fee of \$3.00.

In addition to the usual economic poisons, the Act applies to "any substance or mixture of substances intended to be used for defoliating plants" and to "spray adjuvants which are any wetting agent, spreading agent, deposit builder, adhesive, emulsifying agent. deflocculating agent, water modifier, or similar agent, with or without toxic properties of its own, intended to be used with another economic poison as an aid to the application or effect thereof, and sold in a package separate from that of the economic poison with which it is to be used.'

Colorado Insecticide, Fungicide and Rodenticide Act of 1947. (Amended March 12, 1953). Registration annually, Year July 1-June 30. Fee \$5.00 for each product registered up to 10, and \$2.00 for each additional brand.

Florida Pesticide Act. (Effective June 15, 1953). Registration annually. Year January 1 - December 31. Fee \$10.00 each for the first ten brands registered and \$2.50 for each brand in excess of ten. New registrations must be filed before January 15 of the current year. "In case a manufacturer discontinues the manufacture or distribution of a pesticide, which has been registered in this State, he will be required to continue registration of this pesticide until no more remains on the retailer's shelves, or not to exceed two years from date of discontinuance."

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Georgia Economic Poisons Act of 1950. Registration annually. Year January 1 - December 31. Fee \$5.00 for each brand "or grade," or any number of brands upon payment of annual fees aggregating \$200.00. The Act also provides that anyone who offers for sale within the State any product covered by the Act, shall procure a "dealer's regulatory license" from the Commissioner of Agriculture (no fee), which shall continue in force until

revoked; and that any non-resident manufacturer, or distributor, shall at the time of registration, designate to the Commissioner of Agriculture "an attorney in fact," residing within the State, on which attorney "legal service and process may be had" in connection with the sale of economic poisons or devices in the State.

Hawaii Economic Poisons
Act. Annual registration. Year July
1 - June 30. Fee \$10.00 for each
product registered. "Germicides,
disinfectants or chemical sterilizers
to be used in stables, dairies, creamcries, poultry runs, households and
for general agricultural and related
uses" must be registered.

Act 357 Relating to the Sale and Use of 2.4-D and Related Weed Control Substances having Hormone Characteristics, provides that before any person shall sell or offer for sale any of these products, he must obtain a license. Fee \$10.00, renewable annually.

Kansas Agricultural Chemical Act of 1947. Registration annually. Year January 1 - December 31. Fee \$15.00 each for the first ten products registered and \$5.00 for each brand in excess of ten. "Applications should be submitted at least thirty days before the time when it is desired that registration take effect."

In addition to the usual economic poisons, the Act includes substances "intended for use as a defoliant."

Kentucky Food, Drugs and Poisons Act. "Drug", as defined in the Act, includes "paris green and all other insecticides and fungicides." Labels are required to be filed with the State Department of Health. The Act provides that the State Board of Health "may fix reasonable fees for examining samples of foods, drugs or labels submitted by manufacturers or dealers to determine whether the products or labels comply with the provisions of the Act."

Louisiana Pesticide Act of 1952. Registration annually. Year January 1 - December 31. Fee \$10.-00 for each pesticide registered. In addition to the usual pesticides, the Act includes "any substance which will modify or alter normal process of plant growth and maturation."

Regulations Governing the Sale and Use of 2,4-D and Related Herbicides. The importation, storage, sale and use of 2,4-D and related herbicides in dust form, and formulations containing 2,4-D and related herbicides mixed with fertilizers, insecticides or materials other than inert solvents or carriers, are prohibited. The sale and use of 2,4-D sprays, and equipment and conditions for their application, are under rigid control.

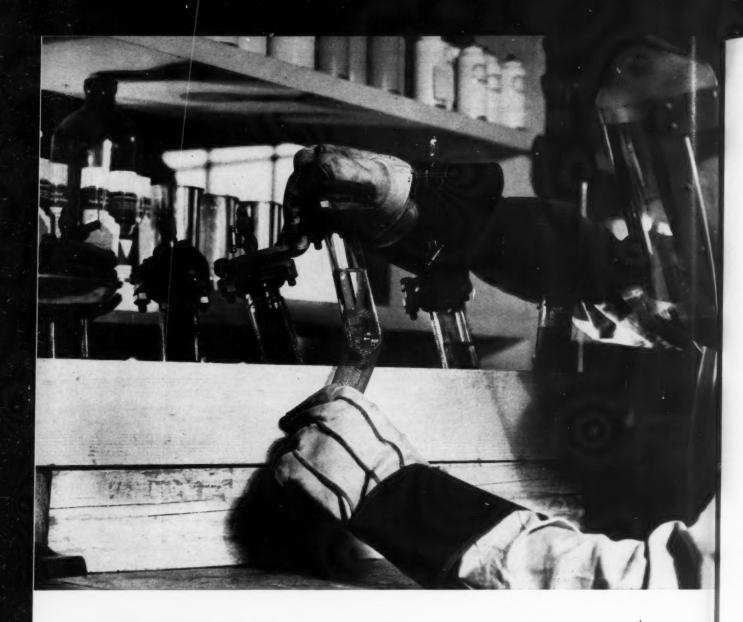
Maine Economic Poisons
Law. Registration annually. Year
January 1 - December 31. Fee \$5.00
for each economic poison registered.

Maryland Insecticides and Fungicides. Registration annually. Year January 1 - December 31. Fee \$5.00 for each brand, or any number of brands on payment of fees aggregating \$75.00 in any one calendar year. The Act covers "all substances intended for agricultural use in preventing, destroying, repelling or mitigating insects, rodents, fungi, bacteria, weeds or other pests." (It does not cover insecticides intended solely for household use).

Michigan Insecticide, Fungicide and Rodenticide Act of 1949. Registration annually. Year November 1 - October 31. Fee \$5.00 each for the first 10 products and \$2.00 for each brand in excess of 10.

Minnesota Economic Poisons and Devices Law. Registration annually. Year July 1 - June 30. Fee \$5.00 for each product registered, with a maximum of \$25.00 for any number of brands. "A penalty of 50% of the registration fee shall be imposed if the license creertificate of registration is not applied for on or before July 1st. of each year, or within the same month such economic poisons are first manufactured or sold within this state." "Devices" as defined under the Act must be registered.

Mississippi Economic Poisons Act of 1950, amended effective



COMPATIBILITY... first requirement of an aerosol formulation

Compatibility is essential if an aerosol product is to function properly. If compatibility is faulty, solids may cause plugged-up valves; the product may not perform properly, or some other defect may result.

In determining the compatibility of active ingredients with a "Freon"* propellent to be packaged in an aerosol container, chemists at the "Kinetic" Technical Service Laboratories subject new formulas to various tests.

Solutions of different active ingredients and "Freon" propellents are studied in pressure tubes covered by a protective wire mesh, as shown above. From these observations it can be learned whether or not the ingredients are compatibile with the propellent. Tests are

made at temperatures ranging from -20°F. to plus 130°F. In some instances co-solvents are recommended to increase the solubility of active ingredients in the propellent. Or, perhaps a slight alteration of the basic formula or propellent (or both) may be indicated.

Because of the versatility of "Freon" propellents, they can be "tailor-made" to meet the specific requirements of a great many products. That is why they are used by the majority of aerosol packers. In addition to this versatility, "Freon" propellents are nonflammable, nonexplosive, virtually nontoxic, noncorrosive and are made by exacting, scientific methods that insure quality and uniformity.

If you are a manufacturer consider-

ing the production of a pressure-packaged product and want to make use of these laboratory services in formulating an aerosol, address: E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Del.



April 15, 1952. Registration annuallv. Year January 1 - December 31. Fee \$5.00 each for the first five products or any number of brands on payment of annual fees aggregating \$25.00. "Renewal of registrations shall be made during each December" or the product "shall be considered as unregistered and subject to the penalties prescribed by the Act." The Act as amended, provides that before a registration is granted, a non-resident is required to file a power of attorney designating the Secretary of State "as agent to accept service of process". (Fee \$5.00).

Montana Insecticide, Fungicide, and Rodenticide Act of 1947. amended effective March 9, 1953. Registration annually; provided that any economic poison imported into this state, which is subject to the provisions of any federal act providing for the registration of economic poisons and which has been duly registered under the provisions of said act, may, in the discretion of the board, be exempted from registration under this act, when sold or distributed in the unbroken immediate container in which it was originally shipped." No fee for registration is fixed by the act.

New Hampshire Economic Poisons Law. Registration annually. Year January 1 - December 31. Fee \$10.00 for each product registered, or any number of brands upon the payment of an annual fee of \$100.

New Jersey Economic Poison Act of 1951. Annual registration. Year January 1 - December 31. Fee \$5.00 each for the first 10 brands registered, and \$2.00 for each brand over 10. In addition to economic poisons, the Act includes "any substance or mixture of substances labeled, designed or intended for use as a defoliant or deflorant and those hormone-like substances which may be used to regulate the growth of plants."

New Mexico Economic Poisons Act of 1951. Amended effective July 1, 1953. Registration annually. Year July 1 - June 30. Fee \$10. for each pesticide registered.

North Carolina Insecticide,

Fungicide and Rodenticide Act of 1947. Registration annually. Year January 1 - December 31. Fee \$10.00 for each brand or "grade" to be offered for sale.

N. C. Aerial Crop-Dusting Law, (1953). Requires the registration and licensing with the State Commissioner of Agriculture of those who engage in the custom application of pesticides by aircraft in the State. Renewable annually. (No fee mentioned in the Act). A liability bond is also required to cover property damage and for personal injury for damages caused by aircraft.

North Dakota Insecticide, Fungicide and Rodenticide Act of 1947. Registration annually. Year January 1 - December 31. Fee \$5.00 each for the first five products, and \$1.00 for each additional product registered. A penalty of 50 percent of the registration fee "shall be imposed if certificate of registration is not applied for on or before January first of each year, or within the same month such economic poisons are first manufactured or sold within the state."

N. D. Livestock Medicine Act. This Act covers, among other things, "all powders, sprays, dips, and other preparations for external use in the curing of scab or the eradication of ticks, lice, and other mites and parasites on livestock, poultry, or other domestic animals." Registration required annually. Fee \$6.00 for each product registered. (These products are covered by both acts and may be registered under either Act).

Ohio Livestock Remedy Act. This Act includes "preparations for external or internal use in the eradication of parasites in or on livestock, poultry or other animals." Registration annually. Year January 1 - December 31. Fee \$25.00 for each article registered.

Oklahoma Agricultural Chemical Law, (Economic Poisons). Registration annually. Year January 1 - December 31. Fee \$5.00 for each brand registered.

Act regulating the use and application of insecticides, herbi-

cides and fungicides; requiring bonds and permits for applicators and users, from the State Board of Agriculture. Permit fee \$25.00 for aerial applicators, and \$5.00 for all other applicators. Renewable annually. Before a permit is issued, the applicant must execute and file with the State Board of Agriculture a corporate surety bond guaranteeing a faithful performance of contract.

Orgeon Insecticide and Fungicide Law. Amended (May 11, 1953). Registration annually. Year January 1 - December 31. Fee \$20.00 each for the first three brands, four to twenty five brands \$75.00, and \$2.00 for each brand in excess of twenty five.

Pennsylvania Insecticides and Fungicides. Registration annually. Year January 1 - December 31. Fee \$5.00 each for the first five brands and \$1.00 for each brand in excess of five.

Puerto Rico Economic Poison Act. Provides for annual registration but no fee is mentioned. "The term 'registration' means that all persons manufacturing, or repacking, or importing for sale, or offering for sale, or selling economic poisons and devices in Puerto Rico shall register each year with the Secretary (of Agriculture) each and every brand of economic poisons and devices which they wish to sell in Puerto Rico."

Rhode Island Economic Poisons Act. Registration annually. Year June 1 - May 31. Fee \$10.00 each for the first five economic poisons registered, or any number of brands after the payment of annual fees aggregating \$50.00.

South Carolina Economic Poison Law. Registration annually. Year January 1 - December 31. Fee \$5.00 for "each and every brand and grade", or any number of brands after the payment of annual fees aggregating \$100.00. The Act exempts household disinfectants, which are covered by the Act regulating the sale of disinfectants.

The Act provides that "Any person or corporation, either domestic or foreign, who shall sell the

(Turn to Page 191)

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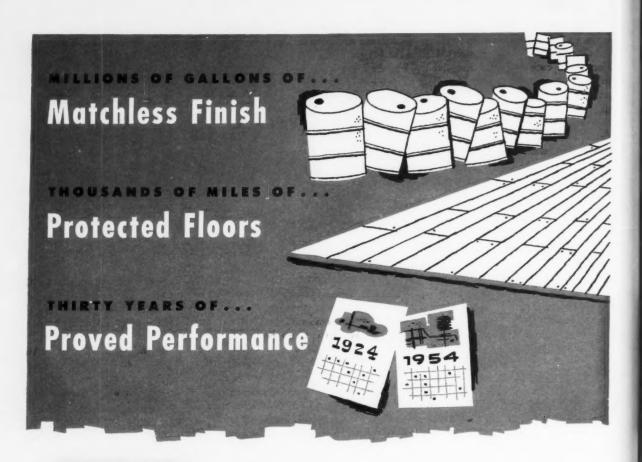
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PHYSICAL PROPERTIES — Piccoumaron Resins vary from liquids through viscous liquids, and tacky solids to high melting point brittle solids. Colors vary from a deep reddish brown to pale yellow. The resins are thermoplastic and do not become infusable on heating. Weights average 8.5 to 9.2 lbs. per gallon.

SOLUBILITY—In coal tar solvents, turpentine and terpene solvents, and in most ketones all grades

are soluble. Most grades are soluble in most chlorinated solvents and derivatives and in esters; mainly insoluble in aliphatic alcohols and soluble in aromatic alcohols. They are largely soluble in drying and semi-drying oils.

COMPATIBILITIES — Most of the Piccoumaron Resins are compatible with most of the natural resins and all are compatible with oil-soluble phenolic type resins, and chlorinated diphenyl types of resins. They can be blended with long oil alkyds of certain grades. They are compatible with petroleum residues, coal tar residues, pitches resulting from oil refining and pine tar. The resins are mainly compatible with paint and varnish oils and with various types of

rubber and rubber-like materials.

Considerable use has been made of combinations of Piccoumaron Resins with chlorinated materials where non-inflammable and flame-resistant coatings are desired.

PLASTICIZERS—Most of the chemical or ester types and aromatic hydrocarbon types of plasticizers are suitable for Piccoumaron Resins. Most heat bodied oils are likewise good plasticizers for Piccoumaron Resins. Soft petroleum residues and cottonseed pitches and the like blend well with the resins.

STANDARD SOLUTIONS—Certain grades normally used in solution are offered in tank car or returnable drum quantities.



NUMBERING SCHEDULE PICCOUMARON RESINS

	COLOR	Light 1½-3½	Medium 4-6	Reddish 6-9	Dark 9-12	Extra Dark 12-16	Extra Dark 12-16
	Liquid Resin	459	429	449	469	439	
_	10°C— 15°C	458	428	448	468	438	XX-10
Z	30°C— 35°C	457	427	447	467	437	XX-25
G POINT	40°C— 45°C	456	426	446	466	436	XX-40
	50°C— 55°C	455	425	445	465	435	XX-55
MELTING	65°C— 70°C	453	423	443	463	433	XX-70
13	80°C— 90°C	452	422	442	462	432	
ME	95°C—105°C	450	420	440	460	430	XX-100
-	110°C—120°C	450H	420H	440H	460H	430H	- XX-115
	120°C plus	450EH	420EH	440EH	460EH	· 430EH	

SPECIAL GRADES—Special grades of Piccoumaron Resins can be made when required.

The colors shown are on the Coal Tar Resin Color Scale. The melting points are by the ball and ring method.



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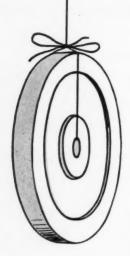
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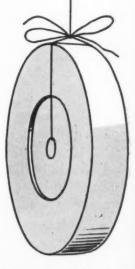
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Acid Cleaner Inhibitors

By D. F. Stauffer, H. M. Winn, K. A. Wagner*

Hercules Powder Co.

T has long been realized that hydrochloric acid is an effective agent for the removal of organic and inorganic encrustations from various surfaces. Although hydrochloric acid has been readily available at a reasonable cost since the early days of the chemical industry; only in recent years has it been extensively used in cleaning compounds. The primary reason for the slow acceptance of such compounds was the lack of effective organic inhibitors which would prevent excessive metal loss.

Fundamentally, inhibitors are materials which can be added to acids at low concentrations and which will reduce metal loss to a tolerable level, while having little effect on the rate of encrustation removal. Through the years many materials have been suggested as inhibitors for hydrochloric acid although relatively few have survived

the test of time. Today there is general agreement that effective organic inhibitors usually contain one or more polar groups and one or more of the elements nitrogen, sulfur, oxygen, and phosphorus.

There is less agreement on the mechanism of inhibition and such fundamental considerations are beyond the scope of this paper. However, it is generally believed that organic inhibitors are adsorbed on the surface of metal in such a manner that the attack of acid on the metal is effectively reduced. One might consider that a molecular film of inhibitor adsorbs on the metal surface and presents a physical barrier to corrosion.

Nitrogenous organic compounds have been extensively studied as acid inhibitors. As early as 1927 Spellar, Chappell and Russell ¹ reported using inhibited muriated acid to remove rust from cold water piping systems. Speller and Chappell ² reported that nitrogenous compounds such as aniline, pyridine,

and quinoline were among the more effective inhibitors tested. Thirty-seven different aliphatic and aromatic amines were later examined by Mann, Lauer and Hultin 3,4 with good results. Numerous other investigatiors 5,6,7 have since reported on the effectiveness of amines as acid inhibitors.

In 1947, Borglin ⁸ described to this group a new primary amine derived from disproportionated rosin and discussed its bactericidal properties. This amine has since become known to the trade as Rosin Amine D or technical dehydroabietylamine (Figure 1).

The new amine proved to be an effective inhibitor in hydrochloric acid, but its low solubility was a disadvantage. It was found that oxyethylation of dehydroabietylamine with ethylene oxide provided a means of solubilization and at the same time enhanced the inhibition properties 9,10. Such polyoxyethylated rosin amines, available under the registered trade name of "Poly-

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516 W. 59th St. New York, N. Y. 319-323 N. Western Avenue Chicago, III. tad", were found to have improved corrosion inhibition properties in mineral acids and natural brines ". Figure 2 shows the structure of the "Polyrad" products.

"Polyrad" compounds containing one to thirty-one moles of ethylene oxide are described in detail by Bried and Winn 12. These investigators reported that all of the "Polyrad" materials acted as inhibitors for mild steel in hydrochloric acid. The addition of free (unreacted) "Rosin Amine D" to the polyoxyethylated rosin amine was found to enhance its effectiveness 13,14. Greatest effectiveness was found for those compositions containing five to 11 moles of ethylene oxide reacted per mole of amine plus 10-15 percent free amine. Data were presented giving corrosion rates for five, 10, and 15% hydrochloric acid inhibited with "Polyrad" at temperatures from 165°F. to 200°F. The inhibitor was found very effective over this range of conditions at concentrations of 0.05 to 0.2 percent in the acid. In addition, comparisons were made with other nitrogenous organic inhibitors including dibutylthiourea, with and without a wetting agent, and a commercial coal tar inhibitor all of which were found to be less effective under the test conditions. Typical data presented by Bried and Winn appear in Table I.

Other investigators have since reported on the effectiveness of polyoxyethylene glycol ethers of "Rosin Amine D". Cardwell¹⁵ found that a "Rosin Amine D" ethylene oxide condensate was more effective than a nitrogen-sulfur coal tar inhibitor. He also reported that these compositions are surface active and function as combination inhibitors and wetting agents to prevent more effectively the attack of acid. This is a point of great importance to the compounder of cleaning compounds.

More Cleaning Compounds

A S a result of the development of effective inhibitors, numerous types of hydrochloric acid cleaning compounds are now in service.

Table I. Exposure of mild steel coupons in 15 percent HC1 for four hours at 165°F. Data of Bried and Winn

	Corrosion Rate			
Inhibitor	Penetration IPY	Lb./Sq. Ft./Day	G./Sq. Ft./Day	% Relative
None	17	1.91	865	100
0.2% Coal Tar Inhibitor	0.158	0.0177	8.03	0.93
0.2% Dibutylthiourea 0.2% Dibutylthiourea	0.9	0.104	47.2	5.45
+ Wetting Agent	0.36	0.0403	18.2	2.12
Polyrad Inhibitor	0.130	0.0146	6.73	0.76

These include metal cleaners, porcelain cleaners, and certain polishes. Such compounds are designed to remove rust, scale, stains and other encrustations from various metallic and nonmetallic surfaces. Generally, these products contain five to 30 percent hydrochloric acid together with suitable quantities of inhibitor, emulsifiers, wetting agents or detergents, abrasives, odorants, dyes, and other auxiliary agents. For example, there are available toilet bowl or porcelain cleaners, compounds for removing oxide film from copper, and scale removal compounds designed to remove rust and scale from metal parts and equipment.

Because of the versatility of hydrochloric acid compounds, they may find their way into uses far removed from those intended. Therefore, it is essential that the manufacturer adequately inhibit any compound containing hydrochloric acid. For example, a hydrochloric acidbased copper cleaner may often be used on copper-clad stainless steel utensils. Hydrochloric acid is not very corrosive to copper, however, it attacks stainless steel readily and unless the copper cleaner is inhibited, severe pitting of the stainless steel will result.

Another example of the necessity for inhibitors can be found in the case of porcelain cleaners. Porcelain is not attacked by hydrochloric acid, however, the cleaner will come into contact with brass drain plates and cast iron drain pipe, both of which are corroded by acid. Even though the time of contact may be short, repeated exposure to uninhibited acid might result in serious damage to the plumbing system. It is, therefore, essential that an efficient inhibitor be used in such compounds.

In their most elementary form, hydrochloric acid cleaners consist of commercial 18-22° Bé muriatic acid (28-37 percent HCl) together with sufficient inhibitor to provide adequate protection. These concentrates are diluted in service or in compounding so that when used five to 15 percent of HCl is persent. Other additives previously mentioned can be included for various special purposes. In metal cleaning compounds a nonionic detergent wetting agent is often added to increase inhibitor efficiency and secure more efficient removal of rust, scale and other deposits. In toilet bowl cleaners pine oil is often included in the formulation to take advantage of its pleasant odor as well as its penetrating and disinfecting qualities. In copper cleaners, abrasives often are used to facilitate removal of organic deposits.

Ideal HCI Inhibitor

T HE ideal inhibitor for use in hydrochloric acid cleaning compounds should have the following properties:

- Is effective at low concentrations
- 2. Is low in toxicity
- 3. Is effective with respect to a wide variety of metals
- Is effective over a wide temperature range



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Table II. Corrosion of various metals five percent HC1 at 70-75°F., 0.2 percent Polyrad inhibitor

	Corrosio G./Sq.F		
	Uninhibited	Inhibited	% Reduction
1010 Mild Steel	12.4	0.066	99.5
302 Stainless Steel	0.525	0.098	81.2
316 Stainless Steel	0.67	0.124	81.8
Copper (Aerated)	2.16	0.107	95.1

Table III. Corrosion of various metals five percent HC1 at 165°F., 0.2 percent Polyrad inhibitor

	Corros G./Sq.		
	Uninhibited	Inhibited	% Reduction
1010 Mild Steel	678	2.44	99.6
302 Stainless Steel	22.2	0.95	95.7
316 Stainless Steel	30.2	2.17	92.8
High-Carbon Cast Steel	227	8.85	96.1

Table IV. Comparison of inhibitors mild steel totally immersed 165°F., 0.2 percent inhibitor

	5% H	Cl	15% HCl		
	Corrosion Rate G./Sq.Ft./Day	% Relative Corrosion	Corrosion Rate G./Sq.Ft./Day	% Relative Corrosion	
Uninhibited	635	100	1135	100	
Coal Tar (A)	9.9	1.54	29.9	2.58	
Coal Tar (B)	19.1	3.01	73.7	6.48	
Coal Tar (C)	4.1	0.65	10.5	0.92	
Dibutylthiourea	9.8	1.54	45.6	4.02	
Polyrad Inhibit	or 2.6	0.41	8.2	0.72	

- 5. Does not decrease rate of scale removal
- Does not leave residue on metal or porcelain surfaces.

The polyoxyethylated "Rosin Amine D" products, previously described, meet these requirements. In addition, the "Polyrad" compounds function as wetting agents and eliminate or reduce the quantity of wetting agent normally required. Data previously presented on the "Polyrad" products was restricted to mild steel at temperatures above 165°F. While these conditions are important for boiler cleaning operations they have little meaning for the general run of acid cleaners used at room temperature on a variety of metals. Studies made in our laboratories show that metals are corroded at varying rates by five percent HCl

at room temperature. With "Polyrad" present, the corrosion rates were all reduced to below 0.2 gm./sq. ft./day. These data are summarized in Table II.

The tests with copper were conducted with aerated acid. Air was supplied in order to accelerate the attack on copper which is normally quite resistant. When aerated, simulating the condition in a thin film, it is moderately corrosive. All tests were conducted by using 0.2 percent "Polyrad" as the inhibitor.

One advantage of conducting tests at elevated temperatures is that corrosion rates are accelerated and differences magnified. Table III shows test results on four different metals in five percent HCl at 165°F. Here it can be seen that in every case corrosion is reduced to

a tolerable level, a reduction of more than 90 percent compared to uninhibited acid.

Finally a comparison of several commercially available inhibitors is given in Table IV. Here, in order to magnify differences, the test conditions are 165°F. and 1010 mild steel. The coal tar inhibitors are the best of several commercially available proprietary compounds we have examined. It can be seen that there was considerable variation in the performance of these coal tar products. All of the inhibitors reduced corrosion by more than 97 percent in five percent acid and by more than 93 percent in the 15 percent acid. In both acids the "Polyrad" type of inhibitor reduced corrosion by more than 99 percent.

Reviewing these data it can be seen that, with respect to mild steel the performance of "Polyrad" inhibitor is relatively independent of temperature and acid strength over the range of 70°F. to 165°F. and five to 15 percent HCl. In all cases within this range of conditions, corrosion is reduced by more than 99 percent. Reviewing the entire range of conditions examined, corrosion was reduced by at least 81 percent and in no case did the corrosion exceed 8.85 g./sq. ft./day.

As previously mentioned, "Polyrad" inhibitors are effective at concentrations of 0.05 to 0.2 percent in the acid. It is important to remember that this concentration of inhibitor must be present in the final dilution of the acid in service. Therefore, when concentrates are prepared, an adequate amount of inhibitor must be present to allow for dilution. In high temperature boiler cleaning operations, an excessive amount of inhibitor is normally used to guard against dilution errors and provide a factor of safety. Generally, three gallons of inhibitor are used per 1000 gallons of dilute (five to 15 percent) acid. In other cleaning compounds a good rule of thumb would call for the use of 0.1 percent of inhibitor for each five percent dry HCl in the formulation. This quan-

(Turn to Page 181)

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DDT Toxicity-Up to Date

By Frank Princi, M.D.*

Associate Professor of Industrial Medicine University of Cincinnati Cincinnati

INCE the last World War, tremendous developments have taken place in all phases of the chemical industry. Among the most important and useful chemicals that have been produced are the organic insecticides. Of these, the chlorinated hydrocarbon compounds have been manufactured and used on a world-wide basis.

The best known and the most widely encountered of the chlorinated hydrocarbon insecticides is DDT. It is the prototype of all the other compounds in its group and it is perhaps more widely disseminated both inside and outside the home than all the other materials combined. Therefore, as the forerunner of a number of different chemicals of this type, it has brought upon itself the blessings of millions and the acrimony of a few whose opinions have been expressed in both the newspapers and the scientific literature.

Curiously enough, it has been the toxicity of DDT (both real or imagined) that has resulted in both reactions. Because of the development of DDT, many diseases which are carried by insect vectors have become almost unknown in many parts of the world. In addition, as the necessity for increasing the world's food supply has become more apparent, the use of effective insecticides has continued to increase. It is impossible to state accurately how much food is lost annually to insects. It has been estimated, however, that in the United States alone insect damage is responsible for a loss of more than 10 percent of the total agricultural crop.

Destruction of stored food alone is said to average five percent even when careful precautions are observed. Therefore in a world where many persons are malnourished or even starving, these figures assume great significance.

Although man's existence has been said to be limited more by the availability of food than by disease, the effect of the newer insecticides on reducing the incidence of many illnesses has been little short of dramatic. The results of the use of DDT in combatting typhus in World War II were so remarkable that this disease was all but unknown among the personnel of the United States Army. Equally important has been the role of the newer insecticides in the control of malaria, plague and Shigella infections. In addition, there is much supporting evidence which indicates that dengue fever, vellow fever, filariasis, Chaga's disease and relapsing fever can also be reduced greatly. Because of these experiences the importance of the use of

DDT to public health and the public welfare has become established.

Despite the fact that the advantages of the use of this insecticidal chemical are manifest, it is imperative that we know whether the advantages of a material may be offset by some intrinsic harmful quality and any question of the toxicity of a material, therefore, must be considered most seriously. Despite some popular misconception, DDT was not released for public use without a background of considerable scientific investigation. Of necessity, much of this research was carried out with animals as experimental subjects. This type of exploration is extremely valuable and results in information which can be employed to estimate the type of injury which may be expected during human exposure. It further serves a definitely useful purpose in understanding the mode of action of the compound. Particularly in the case of DDT however, experimental work was not confined to animals alone. Many studies were done by private laboratories and by outstanding investigators of the United States Public

Most scientists today agree that danger of chronic toxicity from DDT exposure is negligible, the author, a physician and industrial medicine professor, states

Paper presented before 40th midyear meeting CSMA, Cincinnati, May 25.

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Health Service to determine the actual hazards to man. Many of these investigators used themselves as experimental subjects. In this fashion, more reliable information was developed and a better understanding of the physiologic mode of action of the material was obtained.

Why the Confusion?

I F the effect of DDT on animals and man was studied so thoroughly, why then does confusion concerning the actual hazard continue to exist? Probably the most important reason for these differences of opinion may be related to the fact that "toxicity" means many things to different people. A better understanding of the meaning of this term may be helpful in recognizing the dangers of use of any potentially harmful material. The statement that a substance is toxic signifies merely that the compound is capable potentially of producing deleterious physiologic effects. Since it bears no relationship to either quantity or likelihood of action, "toxic" is a term which may be applied to any material because any chemical compound may adversely affect the human organism if it is given in sufficiently large quantities. Thus, per se, this term does not delineate the possible harm that can be anticipated with a proper consideration for the other factors which are necessary to produce an effective physiologic response. Consequently, when a substance does not produce injury during common usage, it becomes hazardous only when it is misused, either accidentally or intentionally.

It is unnecessary to repeat here the many hundreds of experimental and clinical studies which have been carried out and which have demonstrated that the physiologically effective quantity of DDT for mammals is far in excess of the amount which is used even during extremely careless use. Not only do the many laboratories who have participated in this type of investigation agree within rather narrow limits concerning the effective dose, but there is also substantial information from the field which shows that acute illnesses have not occurred during ordinary use. It has been suggested, however, (and usually by indirection) that DDT is an insidious material, that it is stored in the fat, and that it will later become mobilized and produce harmful effects.

DDT Danger Negligible

URING early investigations it was, indeed, thought that DDT would accumulate in the body fat of humans and that eventually it would reach dangerous levels. Later work, however, which was done by the United States Public Health Service at its Technical Development Laboratories has shown that a storage level is reached which does not assume significant proportion with the usual intake levels of daily diet. Very recently, additional information has been developed which demonstrates that most of the material which is stored in the human fat is a DDT-like substance called DDE which is a degradation product of DDT. DDE is far less toxic than its precursor and even less likely to produce deleterious effects. In fact, as a consequence of this information most scientists today agree that the danger of chronic toxicity from DDT exposure is negligible.

Despite this evidence, however, theoretical questions continue to be asked and many of these questions cannot be answered specifically. These inquiries suggest that DDT may be responsible for a variety of diseases, both human and animal. There are inferences that it probably produces everything from X disease to heart disease. When careful investigation does not disclose evidence of physiologic damage, it is difficult to prove that a substance does not produce the variety of trouble for which it is blamed. Perhaps the best method of ascertaining the true hazard of a material which is in common use is the epidemiologic method. Thus, by a study of environmental factors and morbidity figures (in a large

area where DDT has been and continues to be used extensively), Richard E. Fowler of the Communicable Disease Center of the Public Health Service has reported as follows:

"No one of the studies reported above can be considered absolutely conclusive. There are variables other than insecticide usage which cannot be ruled out as contributing factors in these studies, especially in the comparison of morbidity or mortality rates for two different chronological periods. However, in all the studies reported no objective evidence could be found that pesticides were the direct or indirect cause of any chronic disease, nor a contributing cause in diseases generally recognized as having other etiology."

This objective survey is the most thorough and most recent of its kind. There is no factual information which shows that it is in any way incorrect. Under these circumstances one must of necessity assume that suggestions of serious toxicity are based either on misinformation or complete confusion.

In general, it may be stated that the greatest hazards in the use of insecticides are found during their manufacture. Several careful clinical and epidemiologic studies, in industry, have shown again and again that neither acute nor chronic toxicities are real dangers. In fact, this type of manufacturing operation is not considered to be as hazardous as many others in which the end products are sold for human use or consumption.

Use Concentration Low

A LESS intense but more widespread exposure is found during the formulation of the compound. Formulators and persons who mix DDT will, of course, be exposed to materials other than DDT itself since the insecticide must be mixed with a vehicle and in many instances is mixed with other insecticides of the same gen-

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eral group or even of other groups. Finally, when the material is well diluted and comes to the hands of the user, the concentrations are usually so low as to present no serious problem of toxicity.

With a use experience of over ten years at the present time, it seems proper to assume that in the quantities in which DDT is used and disseminated, it is relatively innocuous to those persons who come into contact with it. This experience has not only been extensive but has also been worldwide. Interestingly enough, the record of use is in no way inconsistent with animal experimentation and merely supplements the information which has been produced in the laboratory.

In any consideration of human toxicity, mode of use and quantity in the environment are the most important factors. In addition to these conditions, one is concerned with routes of entry into the body and the relative absorption through these avenues of intake.

As is the case with all the chlorinated hydrocarbon insecticides, absorption will take place most rapidly through the gastrointestinal tract. Therefore, the greatest likelihood of developing illness from the substances will result from ingestion either accidental or intentional. If the quantity which is swallowed is small, no symptoms may develop; if the quantity is large and the dose is, therefore, physiologically effective, gastro-intestinal symptoms will appear. When prompt treatment is provided, recovery is rapid and there is no residual illness.

Although absorption may also take place through the respiratory tract, DDT as a dust has the characteristic of agglomeration (the particles adhere to each other firmly) and rarely reach the terminal portions of the lung. In high exposures, however, significant quantities may be coughed up from the upper respiratory passage and swallowed. In this fashion, poisoning by ingestion becomes the pri-

mary hazard and should be considered seriously. Sprays in the form of emulsions may also be inhaled and to a certain extent swallowed, but in the use of sprays the quantity is usually extremely small. Vapors provide little hazard since the vapor pressure is so high as to make it extremely unlikely that a significant exposure will exist.

Finally, the material may be absorbed through the skin. The danger of significant absorption of the dry material through the skin is negligible (this fact has been demonstrated repeatedly throughout the world during the dusting of the bodies of millions of persons in an effort to control typhus and body lice). Emulsions of DDT which contain petroleum derivatives may, however, result in increased absorption if they remain on the skin for prolonged periods of time. Contact of short duration is not harmful.

DDT, therefore, has received a considerable amount of experimental and clinical attention. Its physiologic effects are known and it does not produce vague or curiously undescribed symptoms. Since the material is a central nervous system stimulant, the clinical responses which are found, in cases of increased absorption, are definite and apparent to the physician. If the patient attempts to make his own diagnosis, confusion and delay will eventuate. It is important to keep in mind that this is not an entirely new and relatively unknown compound, but rather that it is another of the many chemical substances with which man has surrounded himself and concerning which there is a tremendous fund of factual information.

Lower Price for "Teflon"

Reductions in the price of "Teflon" tetrafluoroethylene resin were announced last month by E. I. du Pont de Nemours & Co., Wilmington, Del. Price cuts for large containers of "Teflon" range from 40 cents a pound for molding powders to \$1.00 a pound of resin for dispersions.

New Dow Tanker

Dow Chemical Co., Midland, Mich., placed their second tanker, the S. S. Marine Dow-Chem into service early in May. The unveiling ceremonies took place at the new Lehigh Tank Terminal at Bayonne, N. J. with an inspection of the ship and the new warehouse facilities by approximately 200 guests who went to Bayonne on a special train.

The ship was launched last December and completed her builders trials in March. The vessel is leased by Dow Chemical Co. from Marine Transport Lines, Inc., which owns and operates the vessel. It will be used to transport cargoes made up of hydrochloric acid, perchloroethylene, methylene chloride, chloroform, glycols, 73 percent caustic soda and other liquid chemicals produced by Dow's Texas division.

Diversey Advances Five

Diversey Corp., Chicago, has advanced five members of its sales department, it was announced recently by W. E. Noyes, vice president in charge of sales. R. J. Stell was named to the newly created post of manager of new product development; C. R. Reid was advanced to assistant general sales manager; E. M. Petrie becomes manager of the technical service department; M. J. Butler, Jr., advertising-sales promotion manager; and H. M. Pickles, Jr., assistant to Mr. Noyes.

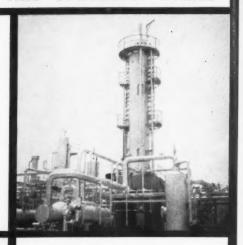
New Hysan Aerosol

"Vernox" aerosol insect spray was introduced recently by Hysan Products Co., Chicago. The product is said to be effective against flies, moths, roaches, ants, mosquitoes, gnats, bedbugs, and silverfish, even if they have acquired resistance. Claimed to be free of unpleasant odor and non-irritant to the human throat, "Vernox" is available also under private label, as is the entire Hysan aerosol line. This includes "air gly" sanitizer, silicone polish, glass cleaner, garbage can deodorant, white wall tire cleaner, furniture finish and other specialties.

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Anti-Freeze Marketing

By William H. Adamson*

Commercial Solvents Corp.

N 1954 upwards of 95 million gallons of anti-freeze will be consumed in the United States. We could discuss almost endlessly the marketing of such a tremendous amount of material. Imagine, if you will, a gigantic locomotive pulling a freight train 250 miles long-every box car filled with anti-freeze. This outsize train illustrates, perhaps crudely, the size of the anti-freeze market. It indicates that a brief discussion of this kind can do no more than touch lightly on the elemental problems of marketing antifreeze.

Each of us in any particular segment of industry would like to believe that his marketing problems are separate and distinct from, an I perhaps more intense than those encountered in other industries. Basically, of course, the same principles apply to the marketing of anti-freeze as to the marketing of any commodity. We are all in the business of selling to buyers whether we are selling books or baskets, anti-freeze or antimacassars. The movement of goods from producer to ultimate consumer poses the same basic problem in every industry. Goods after being produced must be assembled and stored, shipped and sold, must be priced right and advertised and so on.

Even though our subject is vast and we cannot possibly deal with it in detail in such a short space of time, we should briefly discuss marketing in general in order to better relate the particular problems of anti-freeze marketing to the broad general outline of all marketing. Naturally the general objectives of all marketing are the same.

We have to produce a prodnct which will suit buyers' needs as to quality, appearance and performance. Quality and performance in anti-freeze are of paramount importance since the consumer's only reason for buying anti-freeze is to satisfy his urge for security - to protect his car from freezing during the winter months.

We must transport this product to the proper marketing areato wholesalers and jobbers and on to service stations, independent garages, car dealers and all the other retail establishments selling antifreeze. In order to minimize our capital risks, we desire to have, as nearly as possible, the quantity in the field that assures ready accessibility and meets sales expectancies. At the same time we must exercise inventory control to avoid excessive carry-overs.

Our products like all others must be priced competitively and yield us a profit. Every product must be at the point of sale at the right time. With anti-freeze, timing is one of the most important aspects of marketing because of the seasonal nature of the anti-freeze busi-

Of course, anti-freeze like all other consumer products must be packaged attractively, named appropriately and must lend itself readily to display at the point of

Anti-Freeze Market

BEFORE we discuss the specific marketing problems in the antifreeze industry, it would be helpful if we first explored the market it-

self. It seems proper in the interests of accuracy to point out that there is no industry-wide market research data available. It is true that government agencies have conducted some limited studies, but on the whole, market research information is practically non-existent. Each manufacturer has gathered his own data and conducted his own market research with no interchange of information. Each manufacturer has to depend on his own figures, has to develop all his own information and has no industry-wide standards to validate his own findings.

Since the start of World War II there have been tremendous changes in the anti-freeze market just as there have been in every industry. From 1942 until the middle of 1952, over ten years, supply never could catch up with demand. For this reason more attention was devoted to the production of antifreeze than was devoted to the marketing of anti-freeze. Market research functions such as the location of potential buyers and the determination of effects of purchasing power, shifts in population and changing customs and habits were largely neglected in a sellers' market. For the same reasons the pricing of anti-freeze and the packaging of anti-freeze, in fact, all the many important factors with which market research has to deal, were relegated to position of secondary importance in the race to bring in more production - to put more goods on the market. Since mid-1952, however, the anti-freeze market has become intensely competitive. We are all seeking new customers and new users for our products - in short, ways to increase

^{*}Paper presented before the 40th midyear meeting, Chemical Specialties Manufacturers Assn., Netherland Plaza Hotel, Cincinnati, May 24, 1954



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sales. Increasing competition in the past two years has brought antifreeze manufacturers to an awareness of the importance of devoting more attention to market research.

As we mentioned at the beginning of our discussion, the total consumption of anti-freeze in the United States in 1954 will be over 95 million gallons. Of this total, about 55 percent will be ethylene glycol, the so-called permanent type anti-freeze, and about 45 percent will be methanol, the so-called evaporative or alcohol type anti-freeze. Some small amounts of propylene glycol, ethyl alcohol and iso-propyl alcohol anti-freeze will be used, but the amounts will be small compared with the overall total.

The climate of the United States is such that the use of antifreeze is necessary everywhere except in parts of Florida and California and along the Gulf Coast. Previously we attempted to point up the hugeness of the anti-freeze market by describing the 250-milelong freight train needed to transport all the 1954 requirements of anti-freeze. Perhaps we can get a more accurate picture of the scope of the market by talking about the number of units that must be serviced with anti-freeze. In 1954 there will be more than 43 million privately owned passenger cars in the United States. There will be more than 250 thousand busses and more than nine million trucks. Add to this consumption in privately owned automotive equipment, busses and trucks all the anti-freeze consumed by the military, by the other government agencies, by state, county, and city vehicles and all the off-theroad uses in farm tractors, stationary engines, in locomotives, in construction equipment, in snow and ice removal systems, in various types of heating equipment and so

There are many anti-freeze marketing problems, but we should like to confine ourselves to a discussion of three basic problems which over-shadow and sometimes distort all the rest and to which all

the other marketing problems can be related.

Distribution Channels

THE enormousness of the market and its complexity is the first of these basic problems. No one type of distributor or distribution outlet has access to all the various anti-freeze users. Our distribution has to be diverse in order to reach our potential customers. At the retail level there are almost 200,000 filling stations, 70,000 independent repair shops and 50,000 car and truck dealers, almost all of which sell and install anti-freeze. At the wholesale level there are thousands of independently owned automotive wholesalers and thousands of oil jobbers and tire jobbers. The tire companies and the oil companies and the car manufacturers also distribute and sell anti-freeze. The anti-freeze manufacturer's pattern of distribution, therefore, must be flexible enough to embrace all these channels of distribution so that his products can find their way into the hands of the largest possible number of ultimate consumers. We have given you only a brief outline of the various channels of distribution. But even this summary gives an idea of the size and complexity of the market.

Seasonal Aspects

THE second of our basic problems, and a more worrisome and unpredictable one, is the effect that weather has on the anti-freeze business. Anti-freeze is a seasonal item, but manufacturers have plants which must be kept running the year 'round for economical and efficient operation. These plants produce all through the year, but the bulk of the shipments to wholesalers are made during the comparatively short period of only a few months. Wholesalers in turn make the largest share of their deliveries to dealers in an even shorter period of time, only a few weeks. The dealers on their part make the greatest number of their sales to motorists in the space of a few days, the first cold snap.

The actual selling time at the

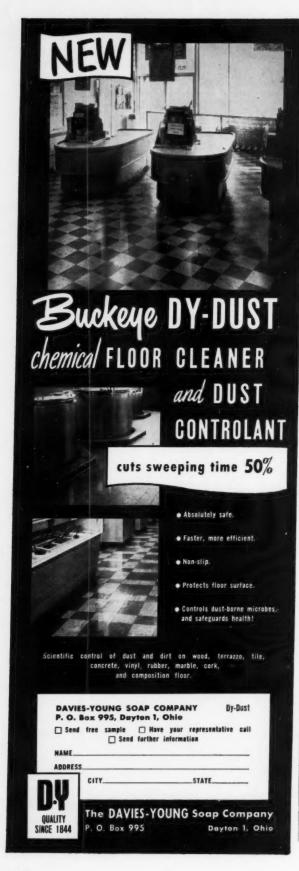
retail level is so short that timing is all-important in shipping, in selling and in advertising. Dealers are reluctant to store anti-freeze for months and months to be ready for a short selling period. This is only natural, but it puts an unnatural strain on the wholesalers who must have more warehouse space than the volume of sales would indicate and must offer inducements in the form of deferred payments to the dealers in order to secure early orders.

In general anti-freeze manufacturers use an agency-consignment sales technique to induce jobbers to stock anti-freeze and accept early delivery of stocks to relieve the congestion at the manufacturer's level. The leading manufacturers consign anti-freeze to jobbers who act as their agents and remit for the material only after it is sold. The manufacturers also allow their jobber agents to remit in November or December for sales of anti-freeze made during the spring and summer months. This practice enables the jobber agents to offer extended dating to the dealers to persuade them to take early delivery.

The carrying of consigned stock puts a tremendous financial burden on the manufacturer of antifreeze. For ten or eleven months in the year the manufacturer has many millions of dollars invested in inventory. He must pay for insurance on this inventory. He has little chance to receive payment for this stock until the end of the year; and if the material is not sold by that time, another entire year passes before it is sold and paid for.

Thus the seasonal aspect of the anti-freeze business creates a serious financial risk for the manufacturer. At the same time it also creates other difficult problems. It runs through and perverts all the other normal functions of marketing.

Assembling and storing a year's supply of anti-freeze at the manufacturer's plants is usually not possible or feasible. The size of the cases and the weight and the large





Quality

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Delivery

VULCAN deliveries are made as you want them. Customer preference and extreme flexibility in shipment has been a basic policy throughout the years. Quantities most convenient for your use are delivered at the intervals you specify. Shipments of trade sizes may be small or large. All trade sizes are carried in stock.



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amount of material involved would require too great an investment in warehouses to be praticable. More important, the short selling season makes it necessary that the antifreeze be very close to the point of sale. If the stocks are not in the field or readily accessible, the selling season passes before the anti-freeze gets where it is needed.

Warehousing of anti-freeze stocks throughout the country solves the problem of accessibility but still requires a costly investment in warehousing or warehouse space. Another solution would be the establishing of packaging lines at various points throughout the country. Shipping the raw materials, to, and the finished products out of these points, offers a freight saving but increases capital investment and supervisory problems. Another solution is the contracting of custom canners to package and ship, but the use of custom canners leads inevitably to quality control problems. Anti - freeze manufacturers are painfully feeling their way along, testing and discarding various methods to combat the packaging and distribution problems brought about by the seasonal nature of their business.

The fact that anti-freeze is a seasonal item also has a marked effect on the way it is advertised. Advertising is a necessary facet of marketing any product, but it would be foolish and costly to advertise anti-freeze through the spring and summer months. The pattern of advertising in the anti-freeze industry is to carry only trade advertising in the spring and summer in order to assist in merchandising and sales at the wholesale level, to continue recognition in the trade, and to stimulate early orders and deliveries. The consumer advertising program usually starts in early September and continues through the two or three months of the season when the bulk of the anti-freeze is sold.

Because of the fact that antifreeze consumer advertising is not continuous but appears only for a few short months it is difficult for manufacturers to maintain advertis-

ing themes, to get continuity and instantaneous recognition by consumers, to use slogans etc. Each fall the manufacturer has to retrace his steps and reestablish his product in the public eye.

In general the advertising of anti-freeze is based on the fundamental urge for security. Every car owner knows that serious damage can result to his car if the water in his cooling system should freeze. Buying anti-freeze and having it installed in his cooling system gives him security and safety. This security and safety are the main underlying themes of all anti-freeze advertising. Whenever possible, antifreeze advertising is hooked to the weather. An anti-freeze advertisement appearing just before the first hard freeze is infinitely more valuable than an advertisement appearing at any other time.

In addition to its effects on production, shipping, warehousing. advertising, etc., the seasonal aspects of anti-freeze have an effect on the selling techniques used to sell it at the various levels. Anti-freeze is primarily a service item. Most car owners have no desire to install anti-freeze themselves. The good dealers realize this and try to service with anti-freeze as many of their customers' cars as possible before the big rush on the first freezing day. The dealers offer fall cooling system service specials and sell complete winter protection. Antifreeze manufacturers urge dealers to offer these winter specials. Antifreeze installed properly leads to far fewer complaints from car owners. It enables dealers to extend the consumer anti-freeze buying season so that the stocking and shipping problem becomes less intense for the retailer, wholesaler, and manufactur-

The marketer of anti-freeze has to wait until cold weather comes before his business develops. Cold weather brings anti-freeze business, and the volume of business is dependent, to a great extent, on the intensity of the cold weather. Mild winter weather in the past few years has decreased the amount of anti-

freeze sold all through the industry. Unseasonably warm winters will always affect volume, and of course, there is nothing that the anti-freeze manufacturer can do about it. Long range weather forecasts have not been accurate enough to base sales estimates upon, and the anti-freeze producers and marketers must produce and have available for sale as much as will be needed in a normal winter. Either an extremely cold winter will create at least local shortages in various areas, or a mild winter will bring about excessive carry-overs in field stocks.

Problem of Re-use

N^{OW} we come to our third basic marketing problem, the tendency of many motorists to re-use their permanent-type anti-freeze for two or more years. Every reputable manufacturer builds into his antifreeze rust and corrosion inhibitors. These prevent the attack on the metals in the cooling system by water, ethylene glycol, or methanol. These inhibitors do wear out and do become ineffective in preventing attack. The breakdown of inhibitors in anti-freeze inevitably results in severe corrosion in the cooling sys-

When there is cooling system trouble or engine trouble due to constant over-heating the motorist blames the anti-freeze or the car itself but doesn't put the blame where it often belongs - on the re-use of his anti-freeze. All of us in the anti-freeze industry are becoming quite concerned over the number of consumer complaints which are directly traceable to the fact that the motorist did not drain and discard his anti-freeze each spring and install fresh anti-freeze the next fall.

Our problem is complicated by the fact that no one can safely predict when the anti-freeze will become unsafe for use. There are many factors involved such as the cleanliness of the cooling system before anti-freeze installation, the heat of the engine, the speed at which the vehicle is driven, exhaust

(Turn to Page 181)

S

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Soap Costs

(From Page 93)

- (6) Rewriting of incomplete and obsolete process instructions to prevent operating errors.
- (7) Increase in batch sizes and length of production runs which reduces material losses in clean-up, etc.
- (8) Process changes to improve the efficiency of the process.
- (9) Use of purchase specifications for purchase of raw materials to prevent losses due to use of inferior materials.
- (10) Decrease in losses due to reworking of off-standard material.

Increases in material performance as shown by this graph do not just happen. They are the result of a series of definite constructive steps taken by supervision, in order_to obtain this improvement.

Following are typical examples of improvement in labor costs without the use of wage incentives.

In these and other graphs shown, the index is based on the identical standards for the total period, in order that the charts will measure the total improvement.

(See Charts 3 and 4)

In a chemical industry, you can obtain labor saving such as these without wage incentives by:

- 1. Better training of personnel.
- 2. Increased flexibility of operating crews,
- 3. Increased work opportunity.
- Elimination of excess personnel.
- 5. Changes in operating organization.
- Transfer of ineffective supervisory personnel.
- Improvement in operating methods.
- 8. Use of labor-saving equipment.
- 9. Larger batch sizes.
- Better planning and scheduling.
- Elimination of abnormal waiting and delays.

- Temporary transfer of idle personnel to other necessary work, etc.
- Methods studies to mechanize or eliminate high labor content in certain operations, etc.

Your expense cost control standards should help you to lower your various expense costs in certain departments.

For example, in one chemical plant they found that they could decrease their filter cloth usage in one department as follows:

The improvement shown (in chart 5) was largely due to:

- (1) Decrease in usage due to better control.
- (2) Changes in certain processing steps to eliminate some strong, hot acid and alkaline reactions, after it was realized when setting standards that a set of filter cloths only lasted about five charges on certain products.

At a later period not shown on this chart further improvement was made by the substitution of a filter cloth made of synthetic fibres.

As a manager you want executive tools which will enable you to get results.

Your department managers and foremen cannot be expected to produce at maximum efficiency if they are not given targets at which to aim.

Their operating records should be compared with a pre-determined goal.

If they hit or exceed this mark, they will have the satisfaction of knowing that they have done their part in realizing the goals set by the company, and you can give them ample recognition.

If during a period they find that they have fallen short of the company's goal, both they and the management can locate the items that are causing trouble.

These periodic reports will give you and your department managers ample warning, so that you can give them capable staff assistance in overcoming difficulties, reducing waste, eliminating losses, etc. Cost control reports and "written management" enable you and your supervision to manage by the rule of exceptions, the variations from standard, are the signals for all levels of your management to watch.

Only danger signals require your attention, so you are saved the time and expense of wading through a mass of detail that records the mere accomplishment of policies and cost programs.

Management by exception from standard offers far-reaching possibilities for simplicitation of your executive procedure and for certainty of results.

The highlights of this discussion which I hope will have found a place in your memory are:

- 1. Cost accounting tells how much money is being made or lost and where it is being made or lost.
- Profits can be increased materially by measuring factory cost performance in materials, labor, and expense against standards for the conditions under which the factory had to operate.
- 3. The cost accountant should be something more than a book-keeper; he should have sufficient stature to place him on a par with the top-level operating personnel.
- The cost accountant not only collects facts but has the responsibility of interpreting the facts in terms of problems of the business.
- Cost accounting should be viewed as an investment: spend a dollar to save 10.

I hope that you are convinced that there are real profits through cost accounting in the industrial soap and detergent business.

Methanol Price Cut 10%

An average reduction of approximately 10 percent in synthetic methanol prices was announced on June 1 by E. I. du Pont de Nemours & Co., Wilmington, Del. The cut applies to shipments in bulk and in drums.

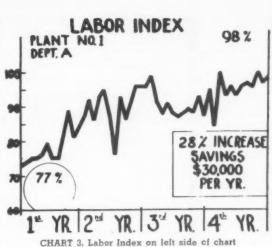




CHART 4. Labor Index at left side of chart

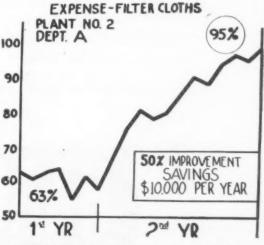


CHART 5. Percent performance at left side of chart

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Davison Merges Into Grace

A merger of Davison Chemical Corp., Baltimore, with and into W. R. Grace & Co., New York, was approved recently. At the same time the issuance of up to 635,499 additional shares of the common stock of W. R. Grace & Co. was authorized. These shares will be used to carry out the merger agreement.

Under the terms of the agreement, shareholders of Davison Chemical Corp. will receive 1.4 shares of the common stock of Grace for each share of common stock of Davison. Holders of Davison preferred stock of \$50 par value will receive \$50 in principal amount of 41/4% convertible subordinate debentures of W. R. Grace & Co. and \$5 in cash. The surviving company will be W. R. Grace & Co.

Western Maintenance Show

The first Western Plant Maintenance show will be held at the Pan Pacific Auditorium in Los Angeles, July 13 through 15, in conjunction with a conference on the subject which will take place in the Ambassador Hotel. Discussions and lectures will be directed to the managerial, supervisory, and technical level of industrial maintenance and separate programs are being arranged to deal with maintenance problems in special industries, including aircraft, electrical, metalworking, food processing, and petroleum processing. Plant posters announcing the event are available free of charge to western plants on request from Clapp and Poliak, Inc., organizers of the show and conference. The firm has offices in New York and San Francisco.

Acid Cleaner

(From Page 165)

tity will provide protection until the acid is diluted below its corrosive

As an example, a typical porcelain cleaner of the type required in Federal Specification PP-00586(GSA-FSS) would contain 7.15 percent HCl, 0.1 percent "Polyrad" inhibitor, 0.5 percent nonionic wetting agent, and the remainder

In addition to hydrochloric acid, the "Polyrad" inhibitors are also effective as inhibitors for other nonoxidizing acids. They are less effective for oxidizing acids such as sulfuric, and currently available formulations are not recommended for this acid. Current "Polyrad" formulations are of little value as inhibitors for chlorinated solvents or emulsions of chlorinated insecti-

In summary, due to the availability of efficient low-cost inhibitors, hydrochloric acid has assumed an important position as a base for cleaning compounds. Removal of rust and scale from boilers and other industrial equipment with inhibited hydrochloric acid is now a common practice which consumes more than 5.000 tons of acid per year, Packaged liquid cleaning compounds based on inhibited hydrochloric acid are receiving excellent acceptance by consumers and are increasingly available. As an inhibitor polyoxyethylated "Rosin Amine D" products, trade named "Polyrad", have proved to be excellent for hydrochloric acid. They are effective in protecting common metals at both low and elevated temperatures. "Polyrad" products meet the requirements outlined for inhibitors in hydrochloric acid cleaning compounds and have achieved wide commercial acceptance.

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Anti-Freeze

(From Page 177)

gas leakage, engine load, mileage, etc. So it is impossible to predict the mileage limits or the time limits for safe anti-freeze performance. All any anti-freeze manufacturer does now is guarantee his material for one season's use. No motorist should gamble possible costly repairs on an expensive automobile against the cost of a fresh filling of anti-freeze each year.

All the leading anti-freeze manufacturers are making every attempt to inform the motoring public of the dangers of re-use. Trade publications have also interested themselves in this problem because they are naturally concerned with the welfare of the dealer and the entire automotive after-market. We do not expect that this problem will be resolved this year or even next year. It will be some time before the majority of motorists are awakened to the fact that it is dangerous and unsafe to re-use permanent type anti-freeze.

Certainly, no marketing problem can be resolved overnight, nor can we completely and adequately investigate all anti-freeze marketing problems in a twenty minute period. Very briefly, we have discussed the general problems of anti-freeze marketing and have paid particular attention to three important basic problems:

- 1. The enormousness of the market and its complexity.
- 2. The seasonal nature of antifreeze business.
- 3. The re-use of permanent-type anti-freeze.

These problems in our field, while not identical with, are similar to problems that each of you faces in his own particular field. The free interchange of ideas does a great deal toward solving problems of this kind.

S



This applicator seems to have no sales limit! Used by more professionals than any other . . . HOLZ-EM is constructed of sheepskin especially selected for correct wool-texture. Assures even-spreading of wax, seals, varnish, etc., to any type of floor.

these AMERICAN STANDARD products from your regular supplier. He has them—or can get them for you. If not, write direct for complete details and prices.

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widely used for easier, safer SANITIZING, **DISINFECTING & DEODORIZING**



PROCESSORS











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There must be a reason why GERM-I-TOL is used in so many diversified fields to solve sanitation problems.

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- NON-CORROSIVE to metals -
- NON-INJURIOUS to rubber -
- NON-TOXIC in recommended
- . NON-IRRITATING to the skin

Practically odorless, colorless and tasteless

ECONOMICAL - A little goes a long way and the sanitizing effects are lasting.

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News

Brenn on Safety Conference

J. L. Brenn, president of Huntington Laboratories, Inc., Huntington, Ind., has been appoint-



J. L. Brenn

ed a member of the research committee of the President's Conference on Occupational Safety, it was announced recently.

Mr. Brenn is an active member of the National Association of Manufacturers, which is engaged in accident prevention projects on a local and national scale. He is a member of the board of governors of the Chemical Specialties Manufacturers Association, of which he is a past president and served as a member of the board of the Association of American Soap and Glycerine Producers, Inc.

La. Herbicide Sales Rule

Legislation regulating the sale of herbicides in Louisiana has been amended and reenacted last month. Section 1621 of title 3 of the Louisiana Revised Statutes of 1950, relative to herbicides, now authorizes police juries of the several parishes to define dangerous herbicides and to regulate their sale and use, to require licenses of sellers and users, to employ personnel for enforcement; and to repeal conflicting laws and to establish the effective date of the act. The Office of the Chemical Specialties Manufac-

turers Association invites comments from members interested in the above ruling.

Fellton Acquires Getz

Herman L. Fellton recently acquired controlling ownership of Getz Exterminators, Inc., Atlanta, Ga., and has since been elected president and chairman of the board. Getz, organized in 1888, conducts pest control and sanitary service operations in fifteen states. Mr. Fellton was previously associated with Orkin Exterminators, Inc., also of Atlanta.

Joseph Burwick Dies

Joseph Burwick, founder of the American Sanitary Products Co. and American School Supply Co., Denver, died recently in that city. He was 70 years old. Survivors are a son, Leo, and a daughter, Mrs. Gladys Kamm, both of Denver.

Woodman Joins Velsicol

Velsicol Corp., Chicago, recently appointed William J. Woodman as sales representative for the midwest area with headquarters in the firm's general offices in Chicago. Prior to joining Velsicol Mr. Woodman served as a consultant for several food processing firms in Wisconsin. He holds a Ph.D. degree in entomology from the University

William J. Woodman



of Wisconsin, where his major studies were concerned with insects affecting man and animals.

In Hollingshead Research

Reid W. Malcolm, Jr., has been appointed director of research and development for R. M. Hol-



Reid W. Malcolm. Jr.

lingshead Corp., Camden, N. J., it was announced June 1 by Wilbur H. Norton, president. Mr. Malcolm succeeds Albert E. Moore, former vice president in charge of research. Before joining Hollingshead in January of this year as manager of the technical service section of the research division, he was associated with Dow Chemical Co., Midland, Mich., where he had been since 1945. A graduate of the University of Pennsylvania, Mr. Malcolm served as patrol plane commander in the U.S. Navy during World War II.

Has New Phone Number

Baird & McGuire, Inc., Holbrook, Mass., had its telephone number changed to Woodlawn 3-9200, effective June 5. The district has been switched to the dial system.

Becomes Pro Chemical

Pro Chemical Co. is the new name of the former Overland Chemical Products Co., St. Louis, Mo. The firm has moved plant and warehouse to 5156 Delmar Boulevard and its new telephone number is FOrest 7-1000. The changes became effective June 1.

Odor Masks for Malathion

Dodge & Olcott, Inc., New York, recently announced the availability of two masking odors for "Malathion" insecticide, a product of American Cyanamid Co., New York. "Malathion" is O,O-dimethyl dithiophosphate of diethyl mercaptosuccinate and presents a difficult odor problem. Used at a rate of approximately one percent in the 95 percent technical grade "Malathion" compounds 40-R-4768 and 40-R-

4943 are said to give good coverage. The odor masks sell at \$2.25 and \$2.45 per pound respectively.

New Carbide Vice-President

Carbide and Carbon Chemicals Co., division of Union Carbide & Carbon Corp., New York, has elected three new vice presidents, it was announced recently by H. B. McClure, president. The three new v.p.'s are N. C. Babcock, E. E. Fogle, and H. D. Kinsey.

A <u>Complete</u> Service in SOAPS, DETERGENTS, EMULSION CLEANERS

THE SERVICE:

- 1. We can make your products in our modern plant.
- 2. We can manufacture *special products* developed by us for your exclusive sale.
- 3. We can supply jobbers with standard items under their label.
- 4. We can supply our own branded merchandise in bulk or for repackaging and resale.

THE PRODUCTS:

Synthetic Detergents Potash Soaps Emulsion Cleaners Disinfectants

Automotive Cleaners Floor & Wall Cleaners Driveway Cleaners Dishwashing Compounds

Industrial Process Cleaners

What is Your Problem?



CINCINNATI 29, OHIO

40 Years in Business

Du Pont Revamps Kinetic

Establishment of a new sales service laboratory and reassignment of technical personnel of the "Kinetic" Chemicals Division was announced recently by E. I. du Pont de Nemours & Co., Wilmington, Del. D. E. Kvalnes, for the past three years head of the fluorine chemicals division of du Pont's Jackson laboratory at Deepwater, N. J., has been named technical manager of the Kinetic Chemicals Sales Division. He reports to Emory M. Fanning, assistant director of sales. The new sales service laboratory is headed by J. S. Lann, who was with the organic chemicals diversification division at Jackson laboratory. The new lab will take over some of the functions of the present fluorine chemical division. Fred S. Palmer, for the past three years a member of the fluorine chemicals division, where he specialized in aerosol protective coatings research and application studies of the new "Freon" fire extinguishing agents, has been transferred to the Wilmington office as assistance to E. G. Young, sales development manager of the Kinetic Chemicals Division.

Steinmark in New Post

E. G. Steinmark, with Pennsylvania Industrial Chemical Corp., Clairton, Pa., for the past 6½ years, has been advanced to the post of Philadelphia district sales manager. Mr. Steinmark is a graduate of the University of Pittsburgh.

E. G. Steinmark



Honor Hyman Stern

Hyman Stern was elected honorary chairman of the board of directors for life of Stern Can Co.,



Hyman Stern

Boston, on the occasion of his 53rd year in business. Mr. Stern, who had come to the United States in 1891, founded the firm after working for 10 years in metal shops in and around Boston. His three sons joined him, and in recent years the third generation of the family has become active in the organization. The present officers of Stern Can include Hyman Stern, honorary chairman of the board; his three sons: Harold S., president; Solomon, vice president; and David, treasurer; and two grandsons: Stuart L. Stern, vice president and Harvey Weiss, secretary.

In June 1950 the Can Manufacturers Institute held a testimonial meeting to honor Mr. Stern. At this meeting Ralph L. Rosecrance, the institute's president, delivered an address describing Mr. Stern's contributions to the can business.

Ed Maguire Retires

The retirement of Edward J. Maguire, New York district sales manager since 1932 for Grasselli Chemicals Department, E. I. du Pont de Nemours & Co., Wilmington, Del., was announced recently. Mr. Maguire is acting as consultant until his retirement becomes effective on June 30. He joined Grasselli Chemical Co. in 1910 as an

office boy and junior clerk in the New York office, became a salesman in 1916 and was placed in charge of acid sales of the New York office in 1928.

Mr. Maguire is succeeded as N. Y. district sales manager by George A. Wright, former manager of agricultural chemicals sales. Mr. Wright joined Grasselli Chemical Co. as a chemist in 1931. He served as assistant district sales manager in New York from 1946 to 1951, when he was named manager of export sales for Grasselli Chemicals Department.

Arne E. Carlson succeeds Mr. Wright as manager of Grasselli's agricultural chemicals sales. Dr. Carlson, assistant manager of agricultural sales since last December, joined du Pont in 1943 as an erosion control expert and was transferred to the Grasselli Chemicals Department as a sales technical service representative in 1945.

Jones Hollingshead Secy.

Philip Jones, former manager of organization development for R. M. Hollingshead Corp., Camden, N. J., has been named secretary of the corporation and assistant to the president, it was announced recently by Wilbur H. Norton, president. Mr. Jones came to Hollingshead in July 1952 as assistant to the director of sales and merchandising. Before joining the Camden firm he was associated with Montgomery Ward & Co. for 20 years.

No Insect

Any reports to the contrary notwithstanding, spiders are not insects. On page 840 of the new book. "Handbook of Pest Control" by Amold Mallis, they are inadvertently termed "insects." This is strictly an editorial error, but nevertheless perturbing to the author as it would be to any entomologist. To the layman, any flying or crawling bug, even a spider, is an insect. But, to the entomologist, such is pure heresy as well as wholly inaccurate. So, we hasten to correct the error as best we may at this late date and to remove any blot from one of the finest contributions to the technical literature we have seen in many a day, — even if our outfit did publish the book. If you have a copy, look on page 840 and change "insects" to "animals."

La Cava Retires

Continental Can Co., New York, announced last month the retirement of Lawrence J. La Cava,



L. J. LaCava

sales manager for special accounts. Mr. La Cava has been with the company since 1920. He began his career at Continental as a salesman for general line cans in the New York City district. During the past 34 years, Mr. La Cava was, successively, special sales representative, then, local sales manager, in Jersey City, N. J.; assistant manager of sales, general line, in New York; assistant to the general manager of sales, general line, and manager of Eastern sales, general line. Mr. LaCava assumed his last position with Continental in 1944 and, for 10 years, has been sales manager of national accounts, contacting some of the company's largest can customers.

Heads Brooklyn Chamber

Selden T. Williams, vice president of Scovill Manufacturing Co., Waterbury, Conn., and general manager of the company's A. Schrader's Son Divison, Brooklyn, aerosol valve producers, has been elected president of the Brooklyn Chamber of Commerce, it was announced recently.

Mr. Williams joined Schrader in 1929, was appointed vice president of Scovill and general manager of Schrader in 1944, and became president of the division in 1950.

Standard Coffee Folder

Industrial Products Division of Standard Coffee Co., New Orleans, recently published an illustrated folder describing its production and research facilities and its policy of shipping daily out of New Orleans by steamship, barge, railroad and motor truck. The division's products include "Forest Pure" pine oil disinfectant; "Andes" self polishing floor wax; "Pride" concentrated neutral floor cleaner; liquid hand soaps; liquid scrub

ical Corp., Clairton, Pa., recently announced the appointment of Griffith-Mehaffey Co., New Orleans as agents in the Louisiana area. The New Orleans firm will cover parts of Alabama and Mississippi.

soap; and "Forest Clean" pine jelly soap. A brief description of these items is included in the brochure. PICCO Names La. Agent Pennsylvania Industrial Chem-

New "Genetron" Plant

Plans to build a new multi million dollar plant at Danville, Ill., for the production of "Genetron" aerosol propellents and refrigerants were revealed last month by General Chemical Division, Allied Chemical & Dye Corp., New York. The firm has exercised options to purchase a 73-acre site for the plant east of Danville. No date has been announced for the start of construction, but it is hoped to begin production early in 1955. The new unit will supplement the output of the firm's "Genetron" production center in Baton Rouge, La.

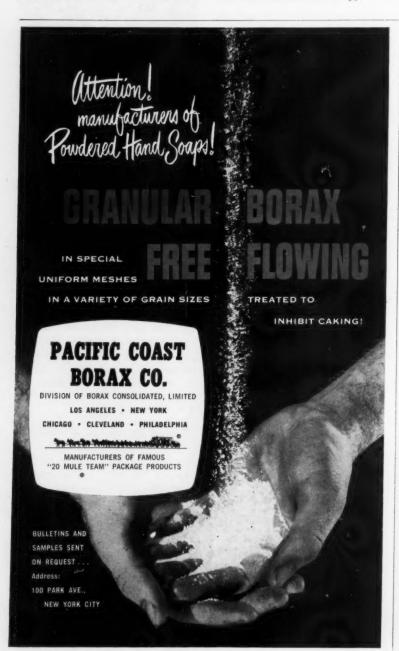
Continental Filling Corp., Danville, one of the largest aerosol producers in the U.S. is a large user of aerosol propellents, and currently employs between 85 and 100 persons. Harry Peterson, president of Continental Filling said that "Allied will supply part of our needs but we will continue to purchase "Freon," from Du Pont's plant in East Chicago."

Schmidt is Sales Manager

Harold Schmidt has been appointed to the position of sales manager for R. C. Can Co., St. Louis, Mo., it was announced recently. Mr. Schmidt joined the firm 19 years ago. He started in the cost department and moved later to the sales department. In his new position he succeeds the late Ed Menard, who had been with R. C. Can since 1927.







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SOAP and CHEMICAL SPECIALTIES

Conway Joins Hatco

John Conway has been appointed sales manager by Hatco Chemical Co., Fords, N. J., it was announced recently. Mr. Conway was associated with Carbide & Carbor Chemicals Co., New York, for the past eighteen years. In his new position he is responsible for Hatco's sales and development activities. He served as a member of the administrative committee of the Automotive Division of the Chemical Specialties Manufacturers Association.

A. D. Lewis in New Post

A. David Lewis, Jr., has been named creosote oil sales representative for Reilly Tar & Chemical Corp., Indianapolis, it was announced recently by J. H. Barnett, Jr., general sales manager. Mr. Lewis will make his headquarters in Chattanooga, Tenn., and cover the southeastern territory.

Prutton to Food Machinery

Carl F. Prutton has been appointed vice president and technical director of the chemical divisions of Food Machinery & Chemical Corp., New York. Prior to his new appointment Dr. Prutton was vice president, and director of operations, engineering and research of Mathieson Chemical Corp., Baltimore, which he had joined as director of research in 1948. He served also as an officer and director of some of Mathieson's subsidiaries.

Carl F. Prutton



Before joining Mathieson, Dr. Prutton had been head of the department of chemistry and chemical engineering at Case Institute of Technology, Cleveland, where he had been a member of the faculty since 1920. He has been associated as a consultant with Lubrizol Corp., with Dow Chemical Co., and with the War Production Board. From 1942 to 1944 he was connected with the Office of Rubber Director.

Bobrick Has New List

Bobrick Manufacturing Corp., Los Angeles, recently published salesman's descriptive sheet JS 5408 which carries illustrations and information pertaining to the firm's full line of dispensers for liquid and powdered soap, lotions and detergents, and of tank type gravity soap systems and accessories. The sheets are available with or without suggested resale prices.



a franchise that earns other distributors \$10,000 to \$20,000 a year and more.

Are you searching for a really profitable, unique franchise for your area? If you are, here is a rare opportunity for you.

Antiseptic Lanelle, America's original and only germ killing powdered hand soap, will enable you to obtain a big percentage of the powdered hand soap sales in your area. With Antiseptic Lanelle you will be in an exclusive situation, as there is no similar competing product. Once your prospects learn about Antiseptic Lanelle, they will not be satisfied with any other hand soap.

An exclusive Antiseptic Lanelle franchise can be yours. We provide all the materials and sales assistance to launch you on a successful sales campaign. Other franchised Antiseptic Lanelle distributors are earning from \$10,000.00 to \$20,000.00 annually, within one to two years.

The opportunity is here to profit with this remarkable product. Get in on the ground floor of the big powdered hand soap market in your area by becoming a franchised Antiseptic Lanelle distributor.

For full details about this exclusive franchise opportunity for your area, write today to:



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Also manufacturers of

Soap Powders, Liquid Soaps, Sweeping Compounds, Dishwashing Compounds

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One way to keep maintenance costs down is to use equipment that lasts longer! And the one way to make sure that such equipment does last longer is to use Atlantic Vanco. Every piece of Atlantic Vanco Mopping Equipment and Janitor's Metalware is right from the start...right in design...rugged in construction... and efficient to work with. And don't forget that Atlantic Metalware is "HOT DIP"

GALVANIZED BY HAND to provide extra protection against wear and corrosion.

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Atlantic Offers the most complete Line Mopping Equipment and lanitor's Metalware.

THE ATLANTIC STAMPING COMPANY

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CUT COSTS - INCREASE PROFITS

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TRI-O-GLOSS EMULSION PASTE WAX

Specifically prepared for use on asphalt tile, rubber tile and composition floors. Recommended wherever solvent type floor wax cannot be used. Prevents bleeding of colors, pitting, and softening of rubber composition and asphalt tile.

MOPPING UNITS Small, Medium

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Hard Facts That Sell TRI-O-GLOSS EMULSION PASTE WAX!!!

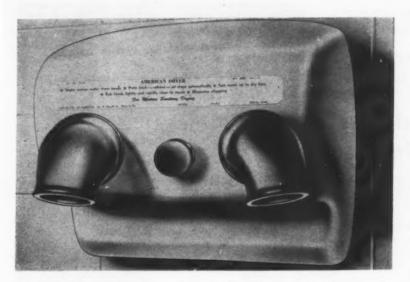
- Bears Underwriters' Laboratories seal of approval as an anti-slip floor treatment material.
- Saves work cleans, polishes and protects floor in one operation.
- · Spreads evenly and smoothly.
- Lasts longer does not easily mar, crack or scratch.
- Economical to use approximately one tablespoonful will wax three square yards.
- · Made with the finest available waxes, under strict laboratory control.

Packed in 20 oz. cans — 5 lb cans — 35 lb. pails Send for samples and further information

TRIO CHEMICAL WORKS, INC.

341 SCHOLES ST.

BROOKLYN 6, N. Y.



Dual Nozzle Dryer

A new dual nozzle electric dryer for installation in washrooms was introduced recently by American Dryer Corp., Philadelphia, Like American's single nozzle models, the new twin model DA-20 features the "G. E. Ozonating" system which ensures deodorization at very low cost. An automatic timing device shuts off the unit at the end of a 40-second cycle. Both nozzles rotate on a 360-degree circle to permit drying of the face and body. Housed in a white and chrome cabinet the 13 by 111/2 inch unit can be mounted on a wall. Priced at \$139.50 f.o.b. Philadelphia, the twin model carries a 30 months warranty and the approval of Underwriters' Laboratory.

ADM Buys U.S.I. Resin Div.

Archer-Daniels-Midland Co., Minneapolis, purchased the resin division of U. S. Industrial Chemicals Co., Divison of National Distillers Products Corp., New York, according to a recent joint announcement by Thomas L. Daniels, ADM president, and John E. Bierwirth, president of National Distillers.

The transaction involves two U.S.I. resin plants, one in Newark, N. J., and one in Pensacola, Fla., as well as inventories, formulations, and trade marks owned by the resin division. The sale was for an undis-

New dual nozzle electric dryer of American Dryer Corp.

closed amount of cash. ADM now has six plants which can produce alkyd resins. Most of these will soon be set up to produce U.S.I. formulations.

Heads American Dispenser

David Feinson has been elected president of American Dispenser Co., New York, it was announced recently by Burton L. Feinson, general manager. David Feinson is also president of Atlantic Exterminating Corp., New Rochelle, N. Y. He is a brother of the late M. B. Feinson, founder of American Dispenser and of the late Irving Feinson, its former president.

Par-Busters Under Way

Par-Busters, golf auxiliary of the Chicago Perfumery Soap & Extract Association and the Chicago Drug and Chemical Association, held a golf outing and dinner at the Rolling Green Country Club, Arlington Heights, Ill., on June 8.

On June 7 and 8 the Associated Drug and Chemical Industries of Missouri held its sixth annual summer outing and dinner dance and was host at the Tri-City Golf Tournament, in which Chicago, Detroit and St. Louis competed for the Fort Dearborn Trophy. These affairs were held at the Norwood Hills Country Club, St. Louis County. Par-Bussers were invited to attend.

In Blood Assurance Plan

R. E. Chapin Manufacturing Works, Inc., Batavia, N. Y., makers of spraying and dusting equipment, is the first industry in the state to join the Blood Assurance Program, it was announced recently. Forty employees gave a "premium" of one pint of blood which guarantees for each member of a family four pints of blood when needed. The Blood Assurance Program is running a pilot project in Genesee County.

Continental Advances Porn

John R. Porn has been named sales manager of the Omaha metal can sales district by C ntinental Can Co., New York, it was announced recently by John L Heinlein, general manager of the South-Central district. Prior to his new appointment, Mr. Porn was assistant to the general manager of the South-Central sales district in St. Louis. He was with Continental from 1930 to 1936. After an interim period with Owens-Illinois Glass Co., Toledo, O., he returned to Continental Can in 1944 as a salesman in the Des Moines District Sales Office.

Dual Purpose Dolly

A twin tank mopping chassis recently introduced by Geerpres Wringer, Inc., Muskegon, Mich., can double as a dolly for loads weighing up to 200 pounds. When not in use on floor cleaning operations its rubber wheeled casters and frame function as a quietly operating truck.

Twin tank mopping chassis of Georpress can double as dolly.



Pressure packagers

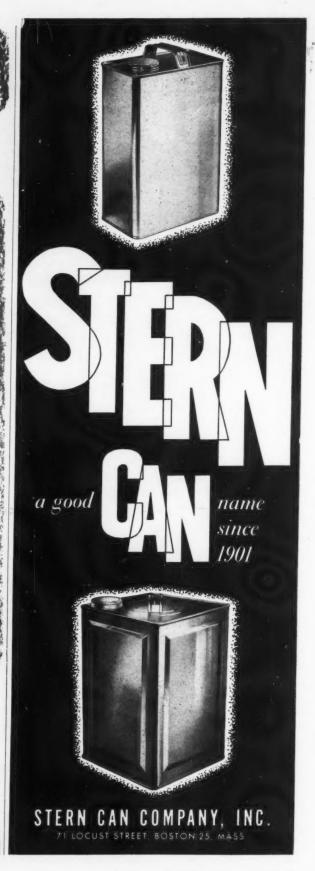
Vaporizer and chemical specialty manufacturers

Wyandotte offers you these advantages when you buy LINDANE:

- 1. A free-flowing, easy-to-handle product, competitively priced—chemically stable and readily formulated into solutions or powders.
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- 3. Technical assistance of an experienced entomologist.
- 4. Constantly high quality products from a basic producer of chemical raw materials for 64 years.

We will be pleased to receive your requests for prices, technical assistance, delivery data, or information on other problems you may have. Your inquiries will get prompt attention. Just fill in the coupon and mail today, or address a letter to: Wyandotte Chemicals Corporation, Dept. SS, Wyandotte, Michigan. Offices in principal cities.

Wyandotte CHEMICALS



Pesticide Laws

(Continued from Page 157)

economic poisons or insecticides regulated by this act within the State shall sign and file with the Commissioner of Agriculture a written statement designating the Commissioner as his or their agent upon whom process may be served in the event of litigation . . . ".

S. C. Act Regulating the Sale of Commercial Disinfectants. Registration annually. Year January 1 - December 31. Fee \$10.00 for each brand, or a maximum fee of \$50.00 per annum "covering all brands made by a single manufacturer".

South Dakota Insecticide, Fungicide and Rodenticide Act of 1947. Registration annually. Year July 1 - June 30. Fee \$5.00 each for the first five products, and \$1.00 for each brand in excess of five.

Aircraft Spraying and Dusting Law. Requires a permit from the State Secretary of Agriculture to "operate any aircraft in the application, distribution, disemination, spraying or dusting of any area in this State." Fee \$5.00. Renewable annually.

Tenessee Insecticide, Fungicide and Rodenticide Law. Registration annually. Year July 1 -June 30. Fee \$5.00 for each brand registered. The term "insect" includes, in addition to the usual classes of insects, "nematodes, and other worms, or any other invertebrates which are destructive, constitute a liability, and may be classed as pests."

Texas Insecticides and Fungicides Act. (1953). The Act covers insecticides and fungicides for use against insects and fungus diseases which may infest agricultural crops, including fruits, vegetables, ornamentals, shade and forest trees, and substances for use against rodents, weeds, and "All other things generally referred to as pests." Registration annually. Year September 1 - August 31. Fee \$25.00 for each agricultural insecticide, provided that "the total of the registration

fees for any one firm shall not exceed \$100.00".

Insecticides and fungicides designed exclusively for livestock, poultry and household use are exempt from the provisions of this law. (See Livestock Remedy Act).

Texas Livestock Remedy Act. Includes, among other things, "preparations for external or internal use in the eradication of parasites in or on livestock, poultry or other domestic animals; and . . . articles intended for use as a component of these articles." (Household insecticides not included).

Registration annually. Year January 1-December 31. Fee "not more than \$10.00 for each separate and distinct product registered; or a blanket fee of not more than \$100.00 for any manufacturer registering 10 or more products." Reregistrations must be applied for and all renewal fees paid on or before January 31st. of each year.

Texas Act Regulating the Sale and Use of 2,4-D and All Other Hormone Type Herbicides. Provides for the licensing of dealers therein and in the licensing and bonding of users. License fee \$25.00, and \$25.00 for each piece of equipment licensed hereunder. Renewable annually. Certain areas are exempt from the provisions of the Act "so long as they contain no crops susceptible to damage."

Utah Insecticide, Fungicide and Rodenticide Act of 1951. Registration annually. Year July 1 -June 30. Fee \$5.00 for each brand registered, or any number of brands after the payment of annual fees

agregating \$50.00.

Vermont Insecticide, Fungicide and Rodenticide Act of 1947. Registration annually, effective "during the year beginning with the date of application." Fee \$5.00 for each product registered, or any number of products on payment of annual fees aggregating \$50.00. "rodents" includes (The term "moles").

Virginia Insecticide, Fungicide and Rodenticide Law. (1948). Registration annually. Year January 1 - December 31. Fee \$10.00

for each brand "or grade" for the first 20 brands registered and \$5.00 for each brand in excess of 20. Applications should be submitted "at least 30 days" before the time when it is desired to take effect. (Regulation 10,c).

Washington Economic Poisons Law. Registration annually. Year January 1 - December 31. Fee \$10.00 for the first product, and \$5.00 for each product over one. If re-registration is not obtained within one calendar month after the expiration of a registration, a penalty of 10% is added to the fee and an additional 5% for each succeeding calendar month, but the total penalty shall not exceed 50% of the original amount due, provided no penalty shall be collected if the registrant makes an affidavit that no business was done during the period of non-registration.

Wisconsin Economic Poisons Act of 1951. Registration annually. Year January 1-December 31. Fee \$10.00 for each brand registered, or any number of brands after the payment of fees aggregating \$100.00 in any calendar year. (The Act also covers preparations intended for the control of nema-

todes)

Wyoming Economic Poisons Act. Registration annually. Year July 1 - June 30. Fee \$2.00 for each product registered, provided "that a maximum registration fee of not more than \$25.00 be charged any one firm".

In addition to the Federal and the State laws, the industry is subject to laws administered by the Federal Trade Commission, regulations of the Interstate Commerce Commission and the Post Office Department, and various city and municipal ordinances. Other Federal legislation, placing additional responsibility on manufacturers of insecticide or other pesticide products which may contaminate food, is now pending before the Congress, with indications of its enactment.

An adequate supply of effective products covered by these laws is indispensable in the production of food crops and for controlling pests.

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Pittsburgh Jobber in News

Cleaning Materials & Chemical Co., Pittsburgh, was the subject of a three-page spread in the Pittsburgh Sun-Telegraph last month, on the occasion of the firm's removal to a new 23,000 square feet building at 2828 Liberty avenue. The company's history is traced from its beginning in 1927 when president C. J. Engel with two associates performed all functions of the firm in a small garage in Allentown. The firm now has a staff of 35. The feature includes pictures of the new quarters, of Mr. Engel, and of the firm's officers including H. Beech, sales manager; R. Engle, secretary; J. Engle, treasurer; and C. Hughes, general manager.

Supplies of materials and appliances sold by Cleaning Materials in the Pittsburgh area are represented in advertisements congratulating the jobber on this new departure.

Wheaton Heads Eston Div.

George S. Wheaton, assistant vice president of American Potash & Chemical Corp., Los Angeles, has recently been appointed head of the company's Eston Chemicals Division. A graduate of Stanford University, Mr. Wheaton served in the development of Eston Chemicals, Inc., which became a division of American Potash in July 1952.

Health Exhibit in Buffalo

The 35th annual health exhibit in connection with the 82nd annual meeting of the American Public Health Association, will be held in the Buffalo Memorial Auditorium, Buffalo, N. Y., October 11 through 15.

Sanders Chem. Co. Moves

Lavery & Sanders, Philadelphia, announced a change of name effective April 1. On that date the firm becomes Sanders Chemical Co. At the same time the firm announced its removal to a new 40,000 square feet building located at 2205-25 N. American St., where it expects to increase private

packaging facilities and to step up production and distribution of its own products. Sanders Chemical is owned and operated by Louis and Samuel Sanders. Director of research is Frederick Weber, formerly professor of chemistry at City College, New York.

Continental Names Pitzer

Dennis Pitzer has been appointed technical director of Continental Chemical Co., North Sacramento, Calif., it was announced recently. Mr. Pitzer is in charge of research, formulation, and product control.

Pennsalt Names Div. Staff

Key appointments to the staff of the new Chemical Specialties Division of Pennsylvania Salt Manufacturing Co., Philadelphia, were announced recently by Albert H. Clem, division president. All appointees have served previously in similar capacities within the consolidated company.

Paul C. Hurley, manager of advertising, will be responsible for advertising, sales promotion andmarket research. In addition, he will continue to direct the advertising activities of the industrial chemicals division and Sharples Chemicals, Inc.

E. S. Garverich will serve as technical director in charge of technical service and product development.

Richard O. White, formerly superintendent of Pennsalt's Montgomery, Ala., plant, has been named production manager, in which capacity he will direct the manufacturing activities of the new division.

There will be no changes in the sales management staff. Product department sales managers who will continue in present positions are: S. H. Crounse, B-K department; J. J. Duffy, metal processing chemicals; H. A. Fletcher, household products; J. S. Hall, laundry & dry cleaning department; H. F. Mc-Intyre, maintenance chemicals; and R. R. Pierce, corrosion engineering.

New Carbide Sales Div.

A new sales division has been formed by Carbide and Carbon Chemicals Co., Division of Union Carbide & Carbon Corp., New York, it was announced recently by W. F. Reich, Jr., vice-president of the company. F. J. Rauscher, previously district sales manager of the St. Louis sales office, has been appointed division sales manager of the newly created southwestern division which covers the states of Arkansas, Louisiana, Missouri. Texas, Oklahoma, Kansas, Colorado, Wyoming, and Utah, Mr. Rauscher's headquarters will be in St. Louis.

H. L. Harwell has been named district sales manager for St. Louis, J. W. Ross for the Pittsburgh district, J. R. Hulton in the Philadelphia district, and J. F. Luther of the Albany district.

U.S.I. "Pyrenone" Letter

A circular letter saying that "much of the research on which claims are made for 'activated pyrethrins' is based on tests made with 'Pyrenone'" was sent to the trade by U.S. Industrial Chemicals Co., New York, last month. "Pyrenone", U.S.I.'s combination of pyrethrin extract and piperonyl butoxide, is claimed to combine high rate of knockdown with safety and economy. Copy of a current advertisement explaining the characteristics of U.S.I.'s product is attached to the letter.

New Toxicant Emulsifier

Pesticide emulsifier "Emcol H-85A" is described in technical bulletin No. 41 published recently by Emulsol Corp., Chicago. The product is said to work equally well in ultra soft and in extremely hard water. A blend of poly ethoxy ethers, esters, and sulfonated oils, it has non-ion plus anion-active components. Full descriptive details are supplied as well as a number of suggested formulations with various pesticidal compounds. The bulletin is available from Emulsol upon request.

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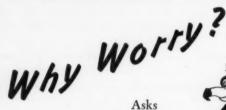
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Hollingshead Names Blank

Otto J. Blank, vice president of R. M. Hollingshead Corp., Camden, N. J., has been named to direct a new development and expansion program, it was announced recently by Wilbur H. Norton, the firm's president. The program of expansion in the United States and Canada includes construction of a new plant at Sunnyvale, Calif., expected to begin this summer.

Mr. Blank's previous responsibilities are taken over by Russell E. Plum, former production manager, who now bears the title of general manufacturing manager. Mr. Plum joined Hollingshead in 1945 as foreman of one of the manufacturing departments and became production manager in 1952.

Drake Heads Pennsalt Div.

William P. Drake was named president of the newly established industrial chemicals division of Pennsylvania Salt Manufacturing Co., Philadelphia, it was announced recently by George B. Beitzel, Pennsalt president

With the company since 1934, Mr. Drake has served as salesman, sales supervisor, product sales manager and general sales manager. In 1949 he was elected a vice president of the company.

Westvaco Advances Four

William L. Davidson has been appointed research director and William B. Rose manager of the development department of Westvaco Chlor-Alkali Division, Food Machinery and Chemical Corp., New York, it was announced recently by Franklin Farley, division president. Prior to joining FMC in January 1954. Dr. Davidson was for three years director of the Office of Industrial Development of the Atomic Energy Commission in Washington. His previous associations include B. F. Goodrich Co. and Monsanto Chemical Co. Mr. Rose joined Westvaco Chemical Corp. after his graduation from the University of North Carolina in 1935. Prior to his new assignment he was assistant technical director of FMC's Westvaco Chemical Division.

Westvaco Mineral Products Division has appointed A. G. Aitchison as manager of its development department and C. Burke Miles as research director. Mr. Aitchison joined Westvaco in 1935 after his graduation from the University of Michigan. Before going with Westvaco in 1946, Dr. Miles had been associated with Pennsylvania Salt Manufacturing Co., U.S. Rubber Co., and Magnolia Petroleum Co.

New Hercules Project

Hercules Powder Co., Wilmington, Del., and Alabama By-Products Corp., Birmingham, announced last month a joint project for construction of an anhydrous ammonia plant to be located in the Birmingham area near Alabama's Tarrant Works. The new plant, scheduled for completion in 1955, will have an annual production capacity of 45,000 tons.

Malaphos Leaflet Available

Eston Chemicals Division of American Potash & Chemical Corp., Los Angeles, announced recently that it will mail to members of the public upon request a leaflet describing properties and uses of "Malaphos" insecticide. This organic phosphate is said to be of comparatively low toxicity to warmblooded animals but to be effective against insect pests infesting apples. pears, tomatoes, beans, peas, and ornamentals. "Malaphos" is compatible with most commonly used insecticides and adjuvants, according to the manufacturer.

Export Post to Melander

Milton W. Melander has been appointed manager of the export sales division of Stauffer Chemical Co., New York, and its subsidiaries and associated companies, it was announced recently. Mr. Melander joined the firm in 1923, has been Pacific coast export manager since 1942. In his new post he makes his headquarters in New York City.

Floor Finish Dial

Multi-Clean Products, Inc., St. Paul, Minn., has developed "Florule", a cardboard device supplying ready reference on how to treat various types of floors. The gadget features a rotating dial. When the dial is pointed to the name of a certain type of floor, a slot in the dial shows the suitable floor maintenance and finishing products, their respective coverage in square feet per gallon, drying times and methods of application. The reverse side of "Florule" carries a list of the firm's products, including description and package information. The device is available free of charge from Multi-Clean distributors. Requests should be directed to the company who will pass them along.

Glamorene Names Brokers

Glamorene Inc., New York, amounced recently the appointment of grocery sales representatives in Pennsylvania, Kentucky, Indiana, Massachusetts, Texas, and Ohio. To cover the up-state New York area it has named brokers in Buff lo, Syracuse, and Albany.

Clay Producers May Merge

Wright W. Gary, president, Attapulgus Minerals & Chemicals Corp., Philadelphia, and James Deshler, president, Edgar Brothers Co., Metuchen, N. J., announced recently that a merger of the two companies has been agreed upon, subject to ratification by directors and stockholders. The merged company would be known as American Minerals & Chemicals Corp. Mr. Gary will be president of the new company and Mr. Deshler will be chairman. David E. Lilienthal, now chairman of Attapulgus, will become chairman of the executive committee and the research policy committee.

Both firms will retain their identities and will be operated as separate divisions of American Minerals & Chemicals Corp. The research activities of the two organizations will be combined.





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- Proctor & Schwartz Soap Chip Dryers complete
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Soap Sales: Wanted by soap manufacturer experienced man to handle sale of high grade milled toilet soaps, chiefly private brand, to department stores, chains, etc., on Eastern seaboard. Can locate either New York or Boston. Excellent opportunity with old established New England manufacturer. Give details of records, salary, etc., in letter. Held in strict confidence. Address Box 208, c/o Soap.

Salesman Wanted: Must have following; catering to janitorial; dry cleaning; rug, etc., outlets; liberal salary, commission or both. New York Soap Co., Inc., 258 Third St., Brooklyn 15, N. Y. ULster 5-3650.

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Chemist Wanted: Thoroughly familiar with laboratory procedure and manufacture of soaps, waxes, emulsions, cleaning compounds. Must be experienced. Location - South. Ideal working conditions. All benefits. Permanent position. Exceptional opportunity for advancement and future. Address Box 210 c/o Soap.

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Available: General manager or production manager for either edible or inedible animal or vegetable fat and oil plant. High calibre man familiar with production and sales of shortening, oils, fatty acids. Graduate chemical engineer. Has had over 25 years experience with fats and oils. Address Box 215, c/o. Soap.

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Chemist: Household products widely experienced in waxes, polishes, lacquers, adhesives, emulsions, also automotive chemicals, desires connection with progressive firm. Metropolitan area preferred. Address Box 217, c/o Soap.

(Continued on Page 201)

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Sanitary Chemicals, new, up-todate book. See page 114.

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For Sale: By I. E. Newman, 5602 Blackstone Ave. Chicago, Ill. Jones automatic laundry & toilet soap presses: 1500 lb. to 6000 lb. crutchers: 10" plodder; Automatic cutting table; Type S wrapper; Filter presses; Powder mixers, etc.

(Continued on Page 203)

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For Sale: Allbright-Nell 4' x 9' chilling rolls. Blanchard #14 soap powder mill. Lehmann 4-roll W. C. 12" x 36" steel mill. Houchin 8½" x 16" 3-roll and 18" x 30" 4-roll Granite Stone Mills. Kettles and tanks, iron, copper, aluminum and stainless. Dryers vac. & atmos. Jones automatic soap presses. Empire State foot presses. Soap frames. Slabbers and cutting tables, hand & power. Crutchers. Six-knife chip-per. Filter presses 12" x 42". Wrapping & sealing machines. Powder, paste & liquid mixers. Rotex sifters. Filling machines, Grinders, Hammer mills. Colloid mills. Threeroll steel mills 8" x 22" to 16" x 40". Portable elec. agitators, pumps, etc. Send for bulletin. We buy your surplus equipment. Equipment Company, 107—8th St. Brooklyn 15, N. Y. STerling 8-1944.

Stainless Steel tanks and kettles. Steel tanks and kettles; crutchers; powder mixers; pulverizers, etc. Perry Equipment Corp., 1410 N. 6th St., Philadelphia 22, Pa.

Announcement: Completely new, up-to-date book, HAND-BOOK of PEST CONTROL by Mallis, ready for sale. See page 126.

For Sale: Pneumatic Scale Packaging line complete; Houchin 10" jumbo plodder; Lehmann 14" plodder; Houchin 14" x 36" 5-roll inclined w.c. mill; Jones automatic laundry & toilet soap presses; Pkg. Machy. model TT and model N soap wrapping machines: 1500 lb. to 6000 lb. crutchers; 12" to 42" filter presses; powder mixers; paste and liquid mixers; Rotex screens; Hammer mills; soap frames; jacketed kettles; pumps; agitators; gluer-sealers, etc. Ask us to quote— Send us your list of surplus machines or plants. Consolidated Products Co., Inc., 59 Garden Street, Hoboken, New Jersey. Tel: HO 3-4425, N. Y. Tel: BA 7-0600.

Are You Posted on SYNTHETIC DETERGENTS and SOAPS & DETERGENTS? see page 134.

Henschel Canco Sales Mgr.

George F. Henschel, manager of sales for the Atlantic division of American Can Co., New York, has been named general manager of sales in the company's general offices in New York, it was announced late last month by D. B.

Craver, vice president in charge of sales.

Mr. Henschel joined Canco 24 years ago as an inspector in the



George F. Henschel

Philadelphia plant shortly after his graduation from the University of Pennsylvania's Wharton School of Finance. He transferred to the sales department in 1935 as an assistant in the Atlantic division office in New York.

Subsequently he served as a salesman in northern New Jersey, as assistant district sales manager in Rochester, N. Y., and as district manager in Philadelphia before his appointment in 1947 as commodity manager of non-food can sales in the Atlantic division. He was named assistant division manager of sales in 1950 and two years later headed the beer can division in the general sales department. He had held his most recent post since December, 1952.

Offers Decorated Container

Olive Can Co., Chicago, offers a line of decorated lithographed metal cans which lend themselves to the marketing of a wide variety of product and which are popular as re-use containers. They are available in custom designs or in stock floral, seasonal or holiday patterns, combining good appearance with economy. Illustrated literature describing the full line of decorated containers can be obtained from the manufacturer.



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We're equipped to handle automotive, household and chemical specialties—in sizes from an ounce to a gallon or several pounds—packaged in glass, metal, fibre board or cellophane containers.

So, if freight costs are eating into your profits—let us explain how we can do your packaging and distributing at greater convenience and less cost. Write us today.

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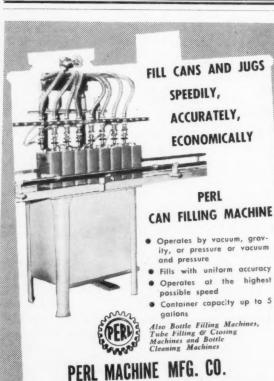
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BROOKLYN 1, N. Y.

Laitner Offers New Brush

A new heavy duty fountain wash brush, trade named "Laco," intended for automotive washing



operations and for the washing of metal buildings, large industrial areas, cement and tile floors, and similar surfaces, was introduced recently by Laitner Brush Co., Brooklyn, N. Y.

The brush comes in round and oblong style, the latter in two sizes built on a rubber back. Choice of brush fillers includes simulated hog bristles, "Nylon" and horse hair, and Tampico fibers. The standard unit has a five foot handle, connects to a ¾ inch water hose, and clear water or aerated soap bubbles can be directed through the brush. The operator has finger tip control of water and detergent.

Development of a detergent mixer for use with commercial fountain brushes grew out of surveys indicating that 90 percent of commercial users employ detergents for the washing of vehicles, according to W. C. Laitner, president of the company. Approximately one ounce of alkylaryl sulfonate concentrate used in the detergent mixer is said to develop sufficient lather to clean a truck, he said.

New Wood Preserving Plant

A new plant for the preservation of wood by pressure treatment with pentachlorophenol has been opened in Cincinnati by Perma-Wood, Inc., it was announced recently by John A. Wurster, the

firm's president. The penta used in this operation is made by Monsanto Chemical Co., St. Louis, Mo., and distributed by Wood-Treating Chemicals Co. The Perma-Wood unit is said to be the 75th pressure treating plant to use Monsanto's product for the proofing of wood against insects and other destructive organisms. Three such plants existed five years ago.

Pennsalt Appoints Four

Pennsylvania Salt Manufacturing Co., Philadelphia, has elected four financial officers, it was announced recently by Edward F. Beale, vice president and treasurer. Stanley L. MacMillan and R. Fisscher Millar were reelected assistant treasurers. Eugene J. Harrington, Jr., formerly assistant secretary and assistant treasurer, succeeds Mr. Beale as secretary and continues to serve as an assistant treasurer. Frederick J. Emmenegger becomes controller.

Conley Displays Merhandise

Conley Chemical & Supply Co., Spokane, Wash., presented a large marchandise display at the Inland Empire Education Association convention held recently in Spokane. The Conley booth aroused interest among the 3,000 educators who had come to the convention from all over the Pacific Northwest, according to L. A. Larson, assistant general manager of the sanitary supply firm,

Kuehne in New Position

E. Richard Kuehne has been named Chicago district sales manager for Mallinckrodt Chemical Works, Inc., St. Louis, it was announced recently by G. C. Bradshaw, western division sales manager. In his new position Mr. Kuehne is in charge of sales activities in Chicago and surrounding communities, Milwaukee and Madison, Wis., and the state of Iowa. Before joining Mallinckrodt in 1943 he was associated with Pure Oil Co., Chicago. Mr. Kuehne is active in the Chicago Perfumery, Soap and Extract Association, and was II member of its board in 1952.

New Hild Vacuum

A new accessory tank for portable and built-in vacuums, designated "Add-A-Tank," was intro-

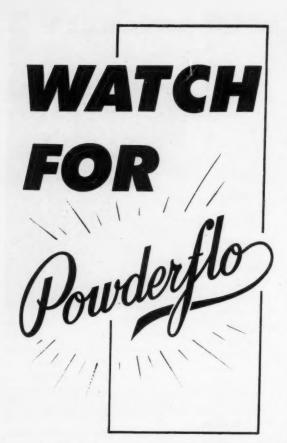


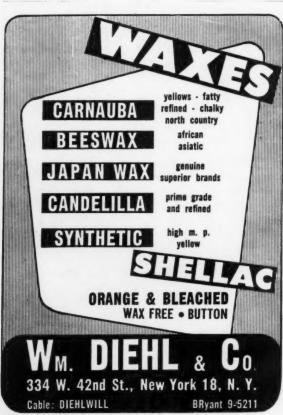
duced recently by Hild Floor Machine Co., Chicago. To increase the wet capacity of Hild's portable vacuum "model 115" from 10 to 25 gallons of recovered liquid, the two units are coupled together with a short piece of hose. With the vacuum in operation, the additional tank fills up first. Then water begins to flow over into the vacuum. The "Add-A-Tank" is available with wheel carriage as a fully portable unit. It can also be obtained without the wheel carriage and can then be placed on a hand truck along with the vacuum from which the wheel carriage has been removed. The unit can be similarly used with most makes of portable vacuums.

With a built-in vacuum system the tank can be used as a waterseparator in the removal of moisture after shampooing carpets, furniture, etc. Connected to the vacuum system outlet, it will retain the recovered liquid to its full 15 gallon capacity.

Monsanto Ups Emerson

Monsanto Chemical Co., St. Louis, Mo., has appointed W. S. Emerson as assistant director of the development department of its Research and Engineering Division, it was announced recently by H. G. Johnson, department director. Dr. Emerson joined Monsanto's central research department in 1941.





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Eale Ends

D OES P & G's "Joy" form plenty of suds? And how, brother! At the recent CSMA convention in Cincinnati, a couple of wits who reputedly had imbibed a few during the course of the evening, decided to settle the question of just how much suds "Joy" will give. So, they obtained two bottles of the liquid detergent and dumped them in the large fountain in the famous Fountain Square in the Queen City. The result was more than they bargained for. The ocean of suds foamed over into the street and made a giant dishpan of Fountain Square. And they had to turn off the fountain and clean out the detergent. Men will be boys!

Ah, democracy! Emery Industries, Inc. of Cincinnati were a trifle late in putting in their application for a suite at the Netherland Plaza Hotel in that city for the CSMA convention. So, the hotel management told them "no more suites, boys, not even for you." So the disappointed Emery boys made other arrangements. P.S. The Emery folks OWN the Netherland Plaza.

Persistent rumors are floating around the country that U.S. Industrial Chemicals, Inc., is going to be sold. If the tale be true, to whom will it be sold? Mathieson bought their antifreeze business; Archer-Daniels-Midland bought their resin division. Who gets the alcohol and insecticide business, if anybody? The hot-rod grapevine says either Food Machinery or Grace Chemical, more probably the former. Take your pick, gents. We're only rumor mongers.

A few months ago, P & G did a sampling job on their new "Gleem" toothpaste in and around the Metropolitan area of New York, right in Colgate's backyard. Just a week or so ago, we noted that Colgate were doing a sampling job on Colgate's Dental Cream in Cincinnati, P&G's backyard.

From the annual show of the Advertising Specialty National Assn., also held recently in Chicago, came forth an extremely interesting device known as a "headache pencil." Now, this is just an ordinary pencil equipped with a hollow barrell filled with aspirin tablets. It seems that the designer of this unique device had in mind its use in filling out income tax forms and for the boss to OK convention expense accounts.

John Ball, chief chemist and production mogul for Tidy House Products out Omaha way arrived at the Chemical Specialties meeting in Cincinnais sporting a full set of whiskers. No mean set of whiskers are these, but a

full "beaver" like our grandfathers were. For hours, he kept his identity a secret, but finally broke down and confessed. Omaha is having its centennial and all the male inhabitants are growing full beavers for the occasion. From now on in, John can make up his mind to one thing,—he will be John Beaver Ball.

Among fussy people, gifts of soap have upon occasion been considered somewhat indelicate. The implication, we assume, is that such a gift is a suggestion to go wash your neck or something. Just so much baloney in our book, but apparently the Commies must be touchy on the subject being as they have never been known for the cleanliness of their necks. Not too long ago, a gift of

forty cases of soap flakes and some washing machines donated by American firms were sent into Czechoslivakia where both were reported scarce. Pronto, the Commie authorities sent the entire works back to West Germany. We'll bet it broke their hearts to turn down something free.

Ethiopia currently is making the world news for its rapid advance in cleanliness promotion and soap manufacture. The third soap and detergent factory was opened in Harrar about a year ago bringing the home production of Ethiopian soaps up to 75 per cent of total consumption. Products are of the most modern type. In 15 years, the country's soap consumption has quadrupled. Schools give compulsory classes in both personal and welling cleanliness. All of this is by the personal direction of their progressive emperior, Haile Selassie. Who was it said that the advancement of modern civilization in any nation is directly proportionate to its consumption of soap?

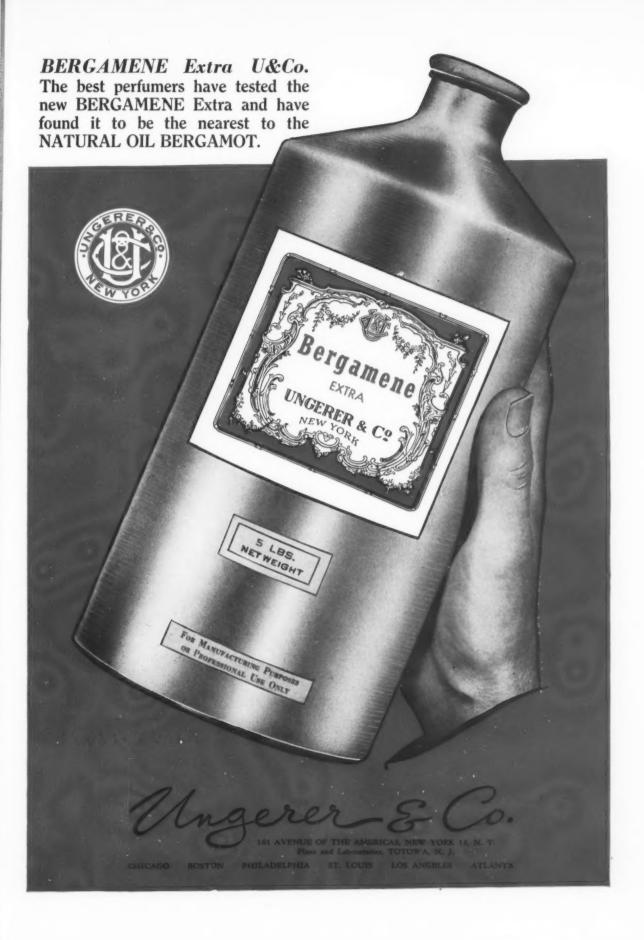
With a bang!



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